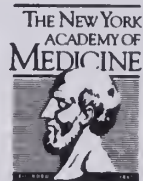




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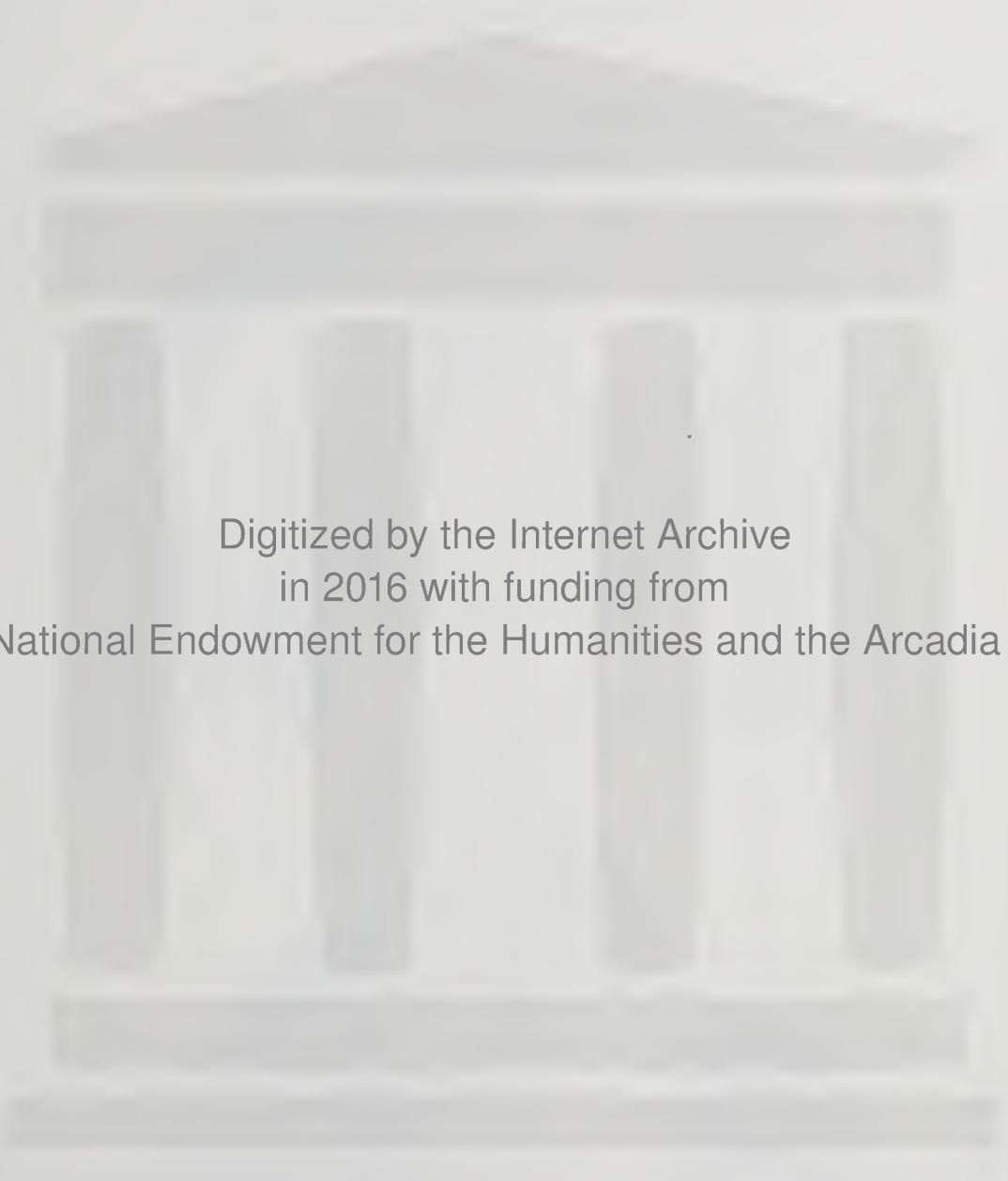
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# JOURNAL

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## "Now" Is Now!

It is said an action is easier to criticize than to correct, and it is easier to revolt than to govern. So now that the political tides in the United States have reversed, the critics of government health programs have an unusual opportunity to contribute new ideas into the national health care policy debate.

In a few short weeks the possibility of United States health care reform went from a political certainty to near total uncertainty. And in the process the majority of U.S. citizens came to realize that mandated health programs *are* the problem and not the solution. Now—while the people have an awareness that most government programs do not solve health care problems—is the time for the medical profession to show our politicians the way out of the socialistic medicine wilderness wherein the government is wandering.

Now, while Congress is acutely aware of the people's disaffection for the way things are, is the time for physicians to lead a national process of incremental reform that eliminates those governmental activities that we know to be deleterious to the delivery of health care to our patients.

For the first time in many decades, and at least two generations, a majority of our United States citizens have realized that limitations on our government's scope of action are both desirable and necessary. Now is the time for medical professionals to project an active program that will return our country to a free market medical economic system. Now we should pre-empt those special interest groups like the insurance industry, the labor unions, AARP, etc., with a slate of positive initiatives the politicians can understand are aimed to improve our citizen's access to health care.

Let us now urge Congress to study the effects of its health care laws, with an eye to re-

pealing those that have undesirable side effects. Programs that do more harm than good have been enacted—CLIA is an outrageous example—and now is a time when Congress can be persuaded to re-evaluate and repeal them.

The Medicaid program is a grossly inefficient and costly method of providing a modicum of medical care to people unable to buy in the market place. Now is the time for Congress to arrange a way to return the charitable management of these patients to the purview of the various state and county government, and to private charities.

Now is the time to re-write the income tax laws to remove the corporate business tax deductions for medical insurance premiums, and simultaneously permit all citizen taxpayers a realistic income tax deduction for medical expenses. Tax sheltered medical savings accounts could now be authorized for catastrophic illness expenses.

Now is also the time to lay the groundwork for the manumission of the Medicare patients. The many deficiencies of the Medicare program are becoming more widely known, and there is increased understanding of the substandard treatment and the deleterious medical economies resulting from Medicare. The Medicare program must be phased down, as the insurability of Medicare patients was wrecked at the program's onset. Now is the time for Congress to establish a mechanism for a future option out of Medicare.

We believe now is the time for the medical profession to get its act together and propose a broad range of initiatives to the politicians that will dismantle this malevolent edifice of government medicine that bedevils our patients and our good physicians.

NOW is the time.

*Ray V. McIntyre, M.D.*



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## The Polka Dot Liver and Spleen: A Case Report

D.H. Van Thiel, MD; T. Hassanein, MD; A. Gurakar, MD; P. Caraceni, MD;  
A. Nadir, MD; H.I. Wright, MD

Hepatomegaly occurring in association with an inhomogeneous liver documented on CT scanning in an individual with abnormal liver injury parameters is a common clinical finding. In most such cases, an increase in the canalicular enzymes (alkaline phosphatase and gamma-glutamyl transpeptidase) is present. Most individuals with this combination of findings are ill-appearing individuals with metastatic cancer. The same findings in an individual with few symptoms or one who appears quite fit is unusual and presents a unique problem in differential diagnosis. Herein we present such a case that, with appropriate medical therapy, had a near complete resolution of the biochemical and radiologic manifestations of disease.

### Case Report

A 48-year-old black woman with a putative diagnosis of primary biliary cirrhosis was referred for consideration for possible liver transplantation in May 1992. She had presented to her primary care physician two years earlier with bilateral apical pulmonary infiltrates and a history of recent onset dyspnea. Because she was unable to cough and produce a sputum specimen, she underwent bronchoscopy with a bronchial biopsy. The endoscopist reported no abnormal findings. The pathology of the bronchial biopsy was in-

terpreted as showing a normal respiratory epithelium with underlying well-formed granuloma containing multi-nucleated giant cells. Fungal and acid fast stains were negative. No therapy was instituted. She was seen 10 months later and had pulmonary function studies which revealed an expiratory obstructive pattern.

In April 1992 she was noted to have developed hepatomegaly and had the laboratory findings reported in Table 2. In addition, she underwent a hepatobiliary HIDA scan which was interpreted as showing an enlarged inhomogeneous liver consistent with either cirrhosis or metastatic cancer. This study prompted a liver biopsy which was interpreted as showing expanded portal areas containing hyalinized fibrous tissue and a mononuclear inflammatory infiltrate as well as piecemeal necrosis. In addition, granuloma with multi-nucleated giant cells and bile ductular proliferation were evident. The biopsy was reported as being consistent with a diagnosis of primary biliary cirrhosis.

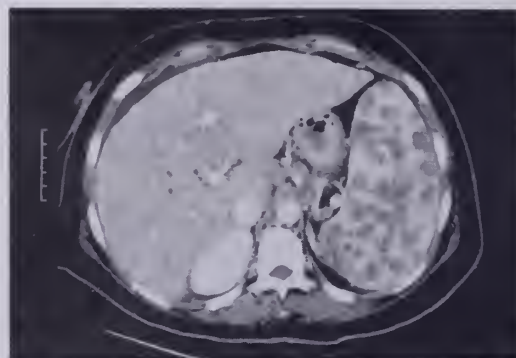
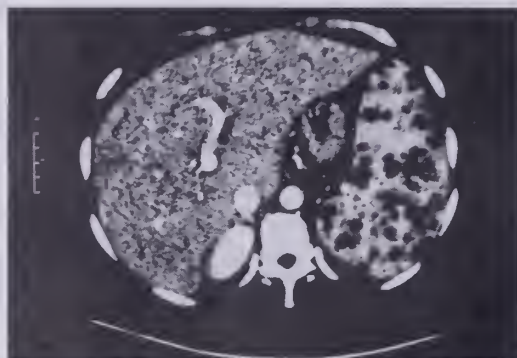
At this point the patient was referred to us. The liver biopsy was reread and reported to be consistent with a diagnosis of sarcoidosis. Additional studies obtained at this time included the other studies shown in Table 1 plus negative serologies for hepatitis A,B,C, and D; a normal upper gastrointestinal endoscopy and colonoscopy; normal cardiac echography and nuclear ventriculography with a LVEF of 69%; pulmonary function tests consistent with a bronchiolitis with an FEV<sub>1</sub> of 52% of predicted, an FEV<sub>1</sub>/FVC of 50% of predicted and a normal DLCO and blood gases. A

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Figures 1 and 2.



chest x-ray demonstrated poorly formed bilateral apical infiltrates and a normal heart size.

An abdominal ultrasound demonstrated a large liver and spleen, absence of ascites, and no biliary tree abnormalities other than gallstones. The liver was reported as having an irregular sonographic texture consistent with diffuse metastatic cancer. The renal resistance index was calculated as 0.64.

A CT scan of the liver revealed hepatosplenomegaly with a liver volume of 2267 cc, gallstones, the absence of ascites, porta hepatis adenopathy,

and parasplenic varices. The liver was reported as being diffusely inhomogeneous consistent with metastatic cancer while the spleen had even larger hypodense areas within it (Fig. 1).

The patient was started on oral prednisone 40 mg/day for 3 months at which time the prednisone dosage was reduced to 20 mg/day. She has continued to take prednisone at this dose and has experienced a dramatic improvement in her well-being associated with a marked reduction in her liver volume from 2267 cc to 1280 cc with a near complete loss of the filling defects present in her

Table 1. Laboratory Data Obtained on the Subject Reported

Parameter (units)	Oct 1991	Apr 1992	Aug 1992	Dec 1992	March 1993	June 1993
AST (IU/l)	100	241			135	100
ALT (IU/l)	306	141	388	470	144	104
GGTP (IU/l)	1687	975			432	210
Alk Phos (IU/l)	2296	812	2060	1196	600	431
T. Bili (mg/dl)	5.3	8.2	4.4	2.3	1.5	1.2
Cholesterol (mg/dl)	971	957				
Albumin (g/dl)	2.6	3.1			3.3	3.4
Globulin (g/dl)	4.3	5.2			4.8	4.8
Protime (sec)	13.0	13.2			12.0	12.0
ACE level (u/dl)	380	387			112	56
NH <sub>3</sub> (mM/l)		138	122		64	32
Iron (ug/dl)		55				
TIBC (ug/dl)		261				
% Sat.		21				
Ferritin (ng/ml)		541				
$\alpha$ 1-AT (mg/dl)		373				
$\alpha$ -Fetoprotein (ng/ml)		3.3				
CEA (ng/ml)		4.3				
IgG (mg/dl)		2130				
IgA (mg/dl)		609				
IgM (mg/dl)		277				
ANA (titer)		1:80 speckled				
AMA (titer)		Negative				
Anti-Sm. (titer)		Negative				
Anti-Thy. (titer)		Negative				
Anti-Micro (titer)		Negative				
Liver Volume (cc)		2267		1280		
Calcium (mg/dl)		10.3	11.3	10.6	10.4	10.3

**Table 2. Differential Diagnosis of Hepatomegaly**

<p><b>I. Diseases Intrinsic to the Liver</b></p> <p>A) Fatty metamorphosis Obesity Diabetes Mellitus Alcohol Abuse Starvation Prolonged TPN</p> <p>B) Hepatic Congestion Congestive Heart Failure Constrictive Pericarditis Budd Chiari Syndrome</p> <p>C) Infiltrative Diseases Cholangitis Hemochromatosis Wilson's Disease Schistosomiasis Hydatid Cyst Disease Amyloidosis Sarcoidosis and other granulomatous disease</p> <p>D) Cirrhosis/Cirrhosis-Like Alcoholic Cirrhosis Autoimmune chronic active hepatitis Primary biliary cirrhosis Primary sclerosing cholangitis Cryptogenic cirrhosis Diffuse Nodular Hyperplasia</p> <p>E) Endocrine Diseases Hypothyroidism (myxedema) Acromegaly Estrogen therapy/pregnancy Androgen therapy</p>	<p>F) Tumors</p> <p>1. Benign Hemangioma Cysts Hamartomas Focal nodular hyperplasia Adenoma/Adenomatosis Carcinoid</p> <p>2. Malignant Hepatoma Cholangiocarcinoma Fibrosarcoma Hemangioendothelioma Hemangiosarcoma Soft tissue sarcomas Lymphomas Squamous Cell Carcinoma Carcinoids</p> <p><b>II. Diseases Arising Extrinsic to the Liver</b></p> <p>A) Reactive Hepatitis 1. Infection in the abdomen 2. Cancer in the abdomen</p> <p>B) Hepatic abscess(es) or other infections 1. 2° Cholangitis 2. 2° Diverticular or appendical disease 3. 2° Infected tumor 4. Granulomatous diseases (fungal, parasitic, mycobacterial and rarely viral)</p> <p>C) Metastatic Cancer Breast Lung Colon Stomach Esophagus Pancreas etc.</p>
--	--

liver as well as the porta hepatis lymphadenopathy (Fig. 2). The appearance of the spleen has remained unchanged.

On continued prednisone therapy her liver injury and function parameters continued to improve through June 1993 (Table 1).

## Discussion

The differential diagnosis of hepatomegaly is an extensive one. It includes diseases that are intrinsic to the liver as well as diseases that arise outside the liver but involve the liver secondarily as a consequence of disease progression (Table 2).

This differential is often overwhelming but can be simplified by segregating the various pathologies listed in Table 2 into those that are homogeneous in nature, heterogeneous in nature, or focal. The latter can be segregated further into those that are cystic, mixed and solid in nature based upon their CT and/or sonographic appearance as is shown in Table 3. Of course, exceptions to the latter listing can occur in certain lesions such as fatty metamorphosis, which can often be focal as well as diffuse.

Hepatomegaly characterized by multiple hypodense lesions within the liver is most often seen

**Table 3. Hepatomegaly Patterns****I. Homogenous**

Fat  
Hemochromatosis (early iron cirrhotic stage)  
Myxedema  
Acromegaly  
Estrogens/pregnancy/anabolic steroids  
Amyloidosis

**II. Heterogenous**

Cirrhosis  
Diffuse nodular hyperplasia  
Sarcoidosis and other granulomatous diseases

**III. Focal**

Cystic —  
    Benign cyst(s)  
    Hydatid cyst  
Mixed —  
    Hemangioma(s)  
    Abscess(es)  
Solid —  
    Tumor(s)

in cases of metastatic carcinoma. Such lesions rarely, if ever, resolve completely, even with successful chemotherapy.

The present case is an unusual example of a non-neoplastic medical condition characterized by multiple hypodense solid lesions within the liver and spleen. The hepatic lesions responded

to appropriate medical therapy as demonstrated by CT scanning. In contrast, the splenic lesions persisted. The differential of such a disease process is remarkably small and includes Hodgkin's disease, lymphomas, hepatosplenic histoplasmosis, coccidiomycosis, brucellosis, tuberculosis, and sarcoidosis. The biochemical findings of an elevated gamma-globulin level, elevated angiotension converting enzyme (ACE) level and hypercalcemia as well as the associated radiologic findings of bilateral apical pulmonary infiltrates, porta hepatis adenopathy, and splenomegaly in a relatively well individual all strongly suggested a diagnosis of sarcoidosis. The earlier pathologic findings of the bronchial biopsy and liver biopsy were both consistent with the diagnosis of sarcoidosis. Finally, the pulmonary function studies were highly consistent with a diagnosis of sarcoidosis.

Based upon this data base, medical therapy consisting of oral glucocorticoids was initiated. It produced a remarkable improvement in the patient's disease process which persists to the present time. □

**The Authors**

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## Assessment of Liver Function: The Current Situation

David H. Van Thiel, MD; Tarek Hassanein, MD

Hepatologists continue to search for a safe, accurate, and reliable method to quantify hepatic function similar in principle to the creatinine clearance for renal disease or spirometry for pulmonary disease. When evaluating patients with advanced decompensated chronic liver disease, there is little need for such tests and a decision for or against liver transplantation is all that is required. However, in patients with chronic compensated liver disease, an estimate of hepatic function based on objective criteria would be most valuable in establishing a prognosis and in determining a treatment plan. The best methods currently available for this purpose consist of the use of model drugs which are metabolized exclusively by the liver by cytochromes P-450 enzyme systems. The alterations in pharmacokinetic parameters (i.e., clearance rate of the parent compound or formation rate of one of its metabolites, etc.) produced as a result of liver disease can be quantitated. The results obtained can be utilized as a measure of hepatic function. The two drugs most commonly utilized for this purpose are lidocaine and caffeine. The advantages and disadvantages of each of these two drugs as probes of hepatic function are herein reviewed.

Currently, the best overall estimate of an individual's liver function requires the judicious use of several different clinical parameters. These include an interpretation of the findings of a good clinical history and physical examination, an evaluation of the abnormalities found in the serum levels of various hepatic enzymes, bilirubin and albumin levels, and prothrombin time. Often the results of one or another hepatic imaging procedures and a liver biopsy are included also. Unfortunately, often not all of these studies are available at each time point or even in a given patient.

Several different scoring systems have been developed for the purpose of quantifying hepatic reserve.<sup>1</sup> Using these systems, disease severity can be predicted with a fair degree of confidence in patients with advanced liver disease. However, individuals with early or modest hepatic disease are inadequately assessed using these systems and often cannot be staged at all. As hepatic therapies become more prevalent, this problem with hepatic disease quantitation will become more obvious and create an ever increasing clinical problem for the practicing hepatologist.<sup>2</sup>

Clearly, a simple, safe, and non-invasive test one could use to determine the severity of an individual's hepatic dysfunction and the rate at which it is progressing *prior* to the development of overt decompensation would be both valuable and widely applied. The best tests currently available for this purpose consist of the aminopyrine, antipyrine, caffeine, lidocaine, indocyanine green (ICG), and galactose clearance tests. Each has its

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own set of unique advantages and disadvantages.<sup>3-5</sup> The two that appear to be most frequently used clinically are the lidocaine and caffeine clearance tests.

### Hepatic Clearance Tests

The liver plays a critical role in the elimination of many exogenous (xenobiotics) and endogenous compounds by converting them from non-polar (hydrophobic or water-insoluble) to more polar (hydrophilic or water-soluble) ones which

The liver, because of its unique double blood supply, gains access to agents absorbed from the gut as well as to those administered systemically.

can then either be excreted directly by the kidney or liver or further metabolized to an even more water-soluble material that can be excreted into bile or urine.<sup>6</sup> The liver, because of its unique double blood supply, gains access to agents absorbed from the gut (via the portal vein) as well as to those administered systemically (via the hepatic artery). Because most drugs are ingested orally, the liver not only determines drug biotransformation (i.e., clearance) rates, but also determines the amount of drug entering the systemic circulation (i.e., bioavailability) and therefore available at target-organs to produce a desired effect. Hepatocytes contain a multitude of enzymes, the vast majority of which are microsomal P-450 cytochromes that are responsible for drug metabolism. Thus, the principle determinants of hepatic drug metabolism are: (1) the rate of delivery of the drug to the hepatocyte (i.e., hepatic blood flow); (2) the degree of drug protein binding in plasma; and (3) the intrinsic capacity of the liver to metabolize the drug. The latter can be used to quantitate hepatic function over a wide range of hepatic dysfunction.

**Hepatic Metabolism of Xenobiotics.**—The biotransformation of xenobiotics within the liver involves several different biochemical reactions. These are often classified into either Phase I or Phase II reactions.<sup>7</sup> Phase I (oxidative or non-synthetic) reactions consist of the oxidation, reduction, or hydrolysis of a drug that enables it to become minimally more polar and available for additional modification by a phase II (reductive or synthetic) reaction such as glucuronidation, acetylation, or methylation. The latter results in the production of a markedly more polar metabolite that can be excreted readily either by the kidney into urine or by the liver into bile. Most Phase I reactions require one or more microsomal

cytochrome P-450 enzymes. In contrast, Phase II reactions can occur in the cytoplasm and mitochondria and within microsomes. Although most of the enzymes involved in hepatic drug metabolism are evenly distributed throughout the hepatic acinus (i.e., Rappaport's functional unit), a few are found only in specific zones. Whenever a hepatic disease preferentially affects one of these zones, the biotransformation of the drug in question may be more severely affected than might otherwise be expected based upon the clinical picture.<sup>8,9</sup>

**Hepatic Blood Flow.**—Hepatic blood flow is the most important determinant of hepatic drug biotransformation during the earlier stages of liver disease when hepatic function is still well-maintained. Without a steady delivery of drug to hepatocytes via a normal circulatory system, regardless of how efficient drug clearance may be, drug metabolism will be compromised. With disease progression, the hepatic vascular anatomy becomes markedly distorted resulting in both intra- and extrahepatic shunts that enable drugs to bypass functioning hepatocytes in normal sinusoids as well as those in regenerative nodules. The extent of this shunting can be substantial and account for as much as 60% of the portal venous flow.<sup>10</sup>

Because of these shunts, a drug that normally is metabolized by the liver following intestinal absorption can be shunted into the systemic circulation, enhancing its bioavailability. In addition, at the level of the functioning hepatocyte, with progressive liver disease and sinusoidal capillarization, a loss of hepatic access occurs, further impairing hepatocyte function.<sup>11</sup>

**Protein Binding.**—Another major factor influencing hepatic drug metabolism is the extent of protein-drug binding. Increased levels of unbound drug, resulting from either hypoproteinemia or its displacement from albumin by bilirubin, free fatty acids or other anions may lead to drug toxicity at end organ sites. A major problem, however, is that protein binding can vary considerably in patients with different liver diseases of apparent similar severity. Moreover, measures of protein binding correlate poorly with the serum albumin level and the degree of measured hepatic disease. An important variable in this regard is the drug's volume of distribution ( $V_d$ ). The three main determinants of a drug's  $V_d$  are plasma protein binding, its partitioning into tissues, and the body's composition. Each of these parameters is altered in the presence of ascites.<sup>6,8,10-14</sup> Thus, it is very important to remember that a drug's elimination half-life ( $t_{1/2}$ ) can be



prolonged solely as a result of a change in its  $V_d$ . Many published studies have failed to take this issue into account; as a result, the apparent discrepancies reported in the literature of an altered  $t_{1/2}$  for a given drug in patients with liver disease are a result of variable  $V_d$  rather than a change in hepatic elimination or hepatic function. Thus, measures of hepatic clearance, rather than drug elimination ( $t_{1/2}$ ), are better parameters to measure when assessing hepatic function. Many other factors such as the patient's genetic background, smoking history, age, nutritional state, and the use of various medications that modify hepatic enzyme levels are also important in determining both the elimination  $t_{1/2}$  and hepatic clearance of a drug.<sup>13,14</sup>

The following is an overview of the use of lidocaine and caffeine as probes to quantitate hepatic function using these principles.

### Lidocaine

Lidocaine is an excellent probe with which one can assess hepatic function. Lidocaine undergoes de-ethylation by hepatic cytochrome P-450 IIIA4 (CYP3A4) to a monoethyleneglycinexylidide (MEGX) and other xylidine metabolites.<sup>15</sup> Lidocaine behaves as a flow-dependent compound in healthy subjects and in individuals with mild liver disease. In cases of more advanced liver disease, biotransformation is independent of blood flow.<sup>8,16</sup> Importantly, adverse or unwanted side effects with lidocaine are rare.<sup>17</sup>

Lidocaine normally has a  $V_d$  of 1 L/kg. Substantial changes in this  $V_d$  occur in the presence of heart failure.<sup>18</sup> In blood, lidocaine is bound to an alpha-1-acid glycoprotein. Stress and infection increase the level of this protein while its synthesis is reduced in cirrhosis.<sup>18</sup> Both situations can effect lidocaine metabolism. Furthermore, the microsomal content of CYP3A4 can vary over a 9-fold range, being inhibited by drugs such as cimetidine and omeprazole and induced by smoking.<sup>15,19,20</sup> Fortunately, the latter effect is minor.<sup>21</sup>

Lidocaine clearance per se can be used as a quantitative test of liver function.<sup>22</sup> However, in 1987, Oellerich et al reported a simple technique for measuring MEGX levels at 15 and 30 minutes following an intravenous 1 mg/kg/bolus of lidocaine, which is easier to do.<sup>23</sup> Subsequently, a kit (TDx analyzer, Abbott Laboratories) using a fluorescence polarization immunoassay for MEGX has become commercially available. A problem with this assay for individuals with chronic cholestatic liver disease is that bilirubin levels greater than 12 mg/dL interfere with the assay.<sup>17</sup> Nonetheless, applications of the MEGX test have been

many and include: (1) the evaluation of patients for liver transplantation; (2) an assessment of donor liver function; (3) monitoring graft function post-transplantation in an effort to identify primary graft failure early; and (4) as a means of predicting subsequent cyclosporine A (CsA) or FK 506 dose requirements.

In one study the Pugh score, the MEGX level at 15 minutes and the ICG  $t_{1/2}$  were shown to be independent variables that could predict one-year pre-transplant survival.<sup>24</sup> The parallel use of the Pugh score and MEGX formation had a prognostic sensitivity of 82%. As might be expected, the modified Pugh-MEGX scores pre-transplant were unable to predict survival *after* transplantation. In yet another study, MEGX formation was used to predict the likelihood of an individual developing a serious complication (variceal bleeding, encephalopathy, etc.) while awaiting liver transplantation.<sup>25</sup> Patients without such complications were found to have a significantly higher 15-minute MEGX value than did those who developed complications. No patient with a MEGX value greater than 30 ng/mL developed a major complication. In contrast, all patients who had a level less than 10 ng/mL died while waiting for a liver transplant. Moreover, patients with a MEGX level greater than 30 ng/mL have been shown to have a better survival rate at 10 months than those with a level below this value ( $p=0.05$ ).<sup>26</sup> Mean MEGX levels have been reported to differ significantly between controls (67 ng/mL), patients with chronic hepatitis (43 ng/mL), and those with cirrhosis (24 ng/mL).<sup>27</sup> With a cut-off level of 54 ng/mL, the sensitivity for detecting a serious hepatic disorder is 84.5%, the specificity is 88.5%, and the overall diagnostic accuracy is 85.6% with MEGX.

A decline in MEGX values has been shown to correlate with worsening liver histologic disease.<sup>27</sup> A similar trend is seen when the Child's class is used to identify disease progression.<sup>1</sup> In contrast, no correlation exists between the histologic findings of the liver and serum transaminase, albumin, bilirubin, or prothrombin time values.<sup>2,3</sup> Only the galactose elimination capacity differentiates mild liver disease from cirrhosis better than does the MEGX test.<sup>28</sup>

Turning one's interest to the potential for predicting donor organ function, Oellerich et al have shown that the probability of graft survival for 120 days post-transplantation is significantly better when the MEGX levels in the donor are

**Only the galactose elimination capacity differentiates mild liver disease from cirrhosis better than does the MEGX test.**



greater than 90 ng/mL.<sup>29</sup> Liver function can be identified as poor when MEGX levels are less than 50 ng/mL. The results of others, however, have not been as favorable.<sup>19-21,30-32</sup>

When assessing liver function *post-transplantation*, both the MEGX test and ICG clearance have permitted an early differentiation between patients with a good from those with a poor hepatic function.<sup>33</sup> Because cyclosporine and FK 506 are metabolized by the same cytochrome P-450 (CYP3A4) as is lidocaine, MEGX levels in 18 of 27 patients were able to predict blood levels of CyA *post-transplantation*.<sup>34</sup> The erythromycin breath test has been used for this purpose also.<sup>35</sup>

### Caffeine

Caffeine, even more than lidocaine, is a near ideal drug with which to quantify liver function. Caffeine is rapidly and completely absorbed after oral administration. It is

metabolized by the hepatic cytochrome P-450IA2 (CYP1A2) enzyme system with less than 3% of the drug being excreted unchanged in the urine.<sup>36</sup>

Other advantages of caffeine include a minimal first-pass effect, its distribution into total body water, and an insignificant binding to serum proteins. Importantly, the drug has few adverse effects that contradict its use.<sup>37,38</sup> In addition, because caffeine is a "capacity-limited" (low extraction) compound, its biotransformation depends essentially upon intrinsic hepatic clearance with little or no measurable effect of hepatic blood flow.<sup>39,40</sup> The hepatic biotransformation of caffeine has been found to be dose-dependent with saturable kinetics when the dose is increased from 60 to 300 mg (the clinically useful range).<sup>41,42</sup> Thus, inter-individual variation in caffeine clearance mandates that the identical dose of caffeine be used with sequential testing procedures.

A prolonged caffeine  $t_{1/2}$  as a result of liver disease was reported initially in 1980.<sup>43</sup> In two recent studies, a reduced hepatic clearance of caffeine (as well as its main metabolite paraxanthine) was shown to correlate with hepatic disease severity assessed by the Child-Turcotte classification.<sup>44,45</sup> Moreover, caffeine clearance was a better measure of liver injury than was the galactose elimination capacity (GEC).

A modification of the usual method of assessing hepatic clearance by monitoring the decline in plasma levels of caffeine is utilized in the caffeine breath test. This is a non-invasive method

wherein the  $^{14}\text{CO}_2$  produced as a result of caffeine metabolism present in exhaled air is measured across time following either an oral dose or intravenous injection of  $^{14}\text{C}$ -labeled tracer drug as well as unlabeled carrier caffeine. The cumulative amount of  $^{14}\text{CO}_2$  exhaled correlates well with caffeine clearance assessed using plasma clearance techniques and decreases in parallel with the decline in caffeine clearance found in patients with progressive hepatic dysfunction.<sup>46</sup> Unfortunately, in subjects without cirrhosis, the changes observed in caffeine clearance and  $t_{1/2}$  do not differ significantly from those observed in normal control subjects.<sup>47-50</sup> A major problem with these studies has been the use of large numbers of controls who smoke.<sup>47</sup> Smoking is commonly known to induce CYP1A2, which can accelerate caffeine clearance and  $^{14}\text{CO}_2$  production.<sup>47</sup> In addition, several of the subjects studied were receiving other medications that are known to affect caffeine metabolism.<sup>48-50</sup>

A method utilized to assess liver function without the requirement for blood sampling is to use salivary caffeine levels. Salivary caffeine levels are about 75% of plasma concentrations over a wide range of values.<sup>51</sup> In 29 cirrhotics, Jost et al demonstrated a prolonged caffeine  $t_{1/2}$  and decreased caffeine clearance using salivary sampling.<sup>52</sup> Similar changes in pharmacokinetic parameters were reported to occur but to a lesser extent in individuals with non-cirrhotic liver disease. Moreover, salivary caffeine clearance values correlate well with other quantitative tests of hepatic function.

Many authors have confirmed the accuracy of using two or more salivary caffeine samples to quantitate the severity of liver disease.<sup>53-55</sup> Unfortunately, in all of these studies, caffeine clearance could not distinguish between individuals with mild, moderate, or severe disease based upon the Child's classification. However, recent data suggest that a combination test consisting of both salivary caffeine and antipyrine clearance determinations can overcome this problem of specificity. Specifically, in a large number of patients awaiting liver transplantation in Pittsburgh,<sup>56,57</sup> of which 125 were Child's class B and 16 were Child's class C, changes in caffeine  $t_{1/2}$  and/or antipyrine  $t_{1/2}$  enabled the Pittsburgh investigators to differentiate between patients based upon the severity of their liver disease. The caffeine and antipyrine clearance data in this report correlated well with advancing Child's class across time. Sequential determinations of a combined salivary caffeine/antipyrine clearance test in patients awaiting liver transplantation have been able to

**Caffeine, even more than lidocaine, is a near ideal drug with which to quantify liver function.**

demonstrate a significant loss of hepatic function over a 2.5-year period.

Studies by other groups using other methods to estimate caffeine clearance unfortunately, have not been as promising.<sup>54,58</sup> Plasma caffeine clearance and GEC, either alone or in combination, do not predict the survival of patients with fulminant hepatic failure<sup>59</sup> nor following liver transplantation.<sup>60</sup> Unfortunately, all of these other studies are limited by the small number of patients tested and the marked inter-individual variation in caffeine clearance related to prior smoking and/or drug ingestion by the limited number of subjects tested.

A promising alternative technique to measuring caffeine clearance directly may be to measure the metabolites of caffeine present in urine and to calculate a caffeine metabolite ratio (CMR).<sup>61-66</sup> This parameter has been shown to correlate with the measured activity of certain hepatic P-450 cytochromes, xanthine oxidase and N-acetyltransferase.

## Summary

Among the various metabolic probes which have been used to quantify liver function, both lidocaine and caffeine appear to be the most versatile and safe. Unfortunately, the use of both agents is limited by one or another factors that confound their hepatic clearance. Thus, the ideal probe with which to quantify liver disease has yet to be identified.

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## Nitric Oxide: An Environmental Pollutant as a Therapeutic Agent

George P. Giacoia, MD

There is no effective treatment for patients with pulmonary hypertension because of the lack of a selective pulmonary vasodilator. Recently, nitric oxide (NO) has been found to be the endothelium-derived factor that produces relaxation of the vascular smooth muscle. This discovery has led to the experimental use of inhaled NO as the first selective pulmonary vasodilator. This review summarizes the development of NO inhalation for pulmonary hypertension, including the essential aspects of basic research, which identified NO as a potent endogenous vasodilator. The use of inhaled NO in animal studies of experimental pulmonary hypertension, as well as in the clinical experience so far reported in newborns, children, and adults are summarized.

It is concluded that inhaled NO remains experimental and that controlled clinical trials and further studies on potential toxicity are needed before this new therapy can be accepted for routine clinical use.

**P**rolonged pulmonary hypertension, regardless of etiology, is associated with muscularization of normally nonmuscular peripheral arteries, and with an increase in wall thickness of muscular arteries. These changes are accompanied by vascular remodeling, which include sub-endothelial migration of the smooth muscle cells, intimal hyperplasia in preacinar arteries, and

progressive increases in collagen and elastin accumulation in the media.<sup>1-3</sup> The extensive destruction of the pulmonary vascular bed in chronic and severe forms of pulmonary hypertension precludes effective therapy save for lung transplantation.

In recent years, research emphasis has changed from the structural consequences of increase in pulmonary blood flow and/or pressure to the preceding functional disturbances. The explosion of new information about cell biology of the vessel wall allows for a better understanding of the mechanisms involved in the contraction and relaxation of the vascular smooth muscle. Recently, nitric oxide (NO) has been identified as an endothelial-derived relaxant factor (EDRF).<sup>4</sup> This new knowledge has led to the use of this air pollutant as a therapeutic agent.

This review will discuss the role of nitric oxide in pulmonary vascular physiology, pathophysiology, as well as therapeutic implications with particular reference to infants.

### NO in the Pulmonary Vascular System

The pulmonary vasculature is in a constant state of active vasodilatation mediated to a great extent by nitric oxide.<sup>5</sup> Small amounts of this gas are continuously released by endothelial cells. In addition, sheer stress or receptor activation by bradykinin or acetylcholine induces the production of NO. These two messengers cause a transient increase in endothelial intracellular calcium. Calcium binds to calmodulin, and this calcium-calmodulin complex activates the en-

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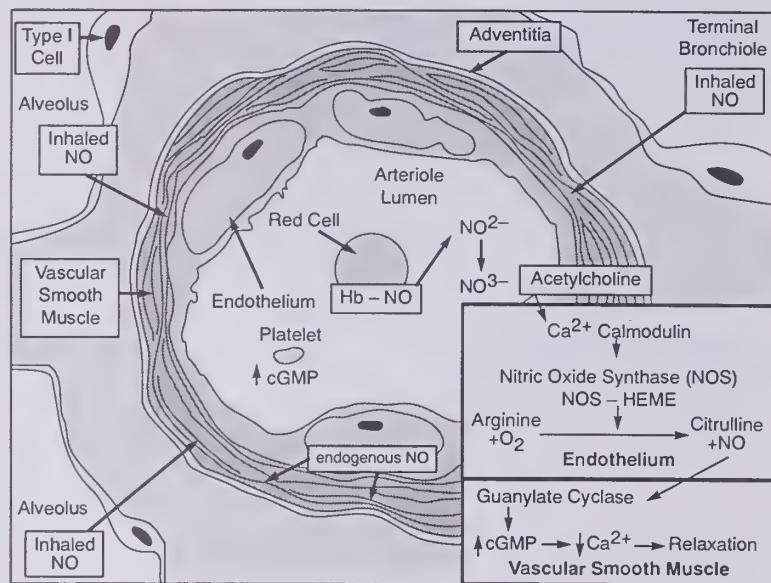


Figure 1. Schematic of paths of endogenous and inhaled NO to reach vascular smooth muscle.

Insert: Biochemical consequences of receptor activation of vascular endothelium by acetylcholine (see text).

zyme nitric oxide synthase (NOS), which converts arginine and oxygen into citrulline and nitric oxide (Fig. 1). Nitric oxide then diffuses into the adjacent smooth muscle and activates guanylate cyclase, which generates guanosine monophosphate (cGMP). The increase in cGMP induces smooth muscle relaxation.<sup>6</sup>

Endogenous lung NO production has been measured in the exhaled air and estimated to be about 4 to 8 parts per billion (ppb).<sup>7</sup> It has been suggested that NO in exhaled air is formed preferentially in the airways.<sup>8</sup> The high concentrations of NO found in asthmatic patients has led to the hypothesis that endogenous NO acts as an endogenous bronchodilator.<sup>8,9</sup> This postulation is supported by the observation that induced bronchoconstriction may be counteracted by inhalation of NO.<sup>10</sup> Endogenous production of NO plays a pivotal role in the modulation of the vascular tone in the adult.<sup>11</sup>

Nitric oxide appears to be of paramount importance in the adaptation of the pulmonary circulation to extrauterine existence. Studies in the ovine perinatal lung indicate that NOS is present in the second half of pregnancy and that the NOS content of endothelial cells increases during the first days of life.<sup>12</sup> Physiologic studies in fetal and neonatal lambs also support the role of NO during transition of pulmonary circulation at birth.<sup>13</sup> The normal decline in pulmonary vascular resistance is related to a large extent to endothelial release of NO, possibly mediated by bradykinin in response to shear stress, ventilation, and increase in  $\text{PaO}_2$ .

## Pathophysiology

A transient deficiency of endogenous NO production has been linked to the development of the syndrome of idiopathic persistent pulmonary hypertension in the newborn (*vide infra*).<sup>15</sup> Both experimental and studies in humans have demonstrated a decrease in lung NO production or release in chronic hypoxic pulmonary hypertension. A decrease in endothelial-dependent relaxation to acetylcholine in both isolated pulmonary arterial rings<sup>16</sup> and perfused lungs<sup>17</sup> was found in rats with chronic hypoxic pulmonary hypertension when compared to normoxic controls.

A resistance to the pulmonary vasodilation action of acetylcholine has been shown in patients with chronic obstructive lung disease (COLD).<sup>18</sup> The fact that these patients respond to inhaled NO with a selective pulmonary vasodilation would suggest that the blunted response to acetylcholine is due to pulmonary endothelial dysfunction. There is evidence of decreased NOS activity during hypoxia.<sup>19</sup> It has been suggested that the decrease in the synthesis and/or release of NO may lead, by undefined mechanisms, to the thickening of the intima and other vascular structural changes.<sup>20</sup> Attenuated or abolished acetylcholine induced vasodilation with intact response to inhaled NO has also been found in those children with congenital heart disease, who developed perioperative elevations in pulmonary vascular resistance.<sup>21</sup> Cardiopulmonary bypass may be responsible for the postoperative pulmonary endothelial dysfunction in these patients.

Further characterization of the relationship between NO production during hypoxia and the development of pulmonary hypertension in patients with chronic lung disease awaits further investigation.

## Inhaled NO

NO is a colorless, highly diffusible gas with a density similar to that of air (1.04). Like oxygen, NO diffuses along the terminal pulmonary airways. The proximity of the alveoli and terminal bronchioles to the pulmonary vascular smooth muscle allows for a direct vasodilator effect (Fig. 1). Further passage of the NO gas beyond the smooth muscle into the luminal side of the vasculature occurs; approximately 80% to 90% of inhaled nitric oxide is absorbed into the blood stream and is inactivated by hemoglobin. NO is a selective pulmonary vasodilator because it is delivered directly to the pulmonary vascular system with ventilation, but does not reach the systemic circulation.

Inside the red cells, NO immediately binds to the heme ring of hemoglobin to form nitrosylhemoglobin with an affinity 400,000 times higher than that of oxygen, and 1500 times higher than that of carbon dioxide.<sup>22</sup> Nitrosylhemoglobin is metabolized to methemoglobin from which nitrites and nitrates are generated by oxidation.<sup>23</sup> The concentration of nitrate in blood is 100 times higher than that of nitrite because nitrite is rapidly converted to nitrate. Most of the nitrate is excreted in the urine, but a small fraction is excreted in the saliva. Once in the mouth, nitrates are converted to nitrogen by the oral flora.<sup>24</sup> Nitrates are also excreted in the intestine where they are either converted to ammonia and metabolized to urea in the liver or excreted in the feces. Most of the metabolites of NO are removed within 48 hours.<sup>24</sup>

Methemoglobin formation is minimal at concentrations of NO up to 100 parts per million (ppm).<sup>25</sup> NO reacts with molecular oxygen and forms nitrogen dioxide (NO<sub>2</sub>) and other reactive radicals. Formation of reactive compounds depends on the concentration of oxygen and the square of the concentration of NO.<sup>26</sup> It should be stressed, however, that the rate of uptake of NO in the lung is 1800 times faster than the rate of oxidation of low concentrations of NO (e.g., 20 ppm) to toxic nitrogen dioxide.<sup>27</sup> Also, at gas

flow of 10 L/min, the NO transit time from the NO source to the alveoli is only a few seconds.

### Toxicology of Inhaled NO

The last report of acute NO poisoning in humans occurred 27 years ago when a tank of the anesthetic gas, nitrous oxide, was contaminated with NO and NO<sub>2</sub>.<sup>28</sup> Most of the available literature, however, is related to environmental concerns. Oxides of nitrogen are common environmental toxicants. Both NO and NO<sub>2</sub> are formed by petrol and diesel combustion engines. However, a major source of NO is cigarette smoke. It has been estimated that a smoker may be exposed from 40 to 1000 ppm per puff of cigarette smoke.<sup>29</sup>

The U.S. Occupational Safety and Health Administration (OSHA) has set occupational ceilings for NO and NO<sub>2</sub> at 25 ppm and 5 ppm.<sup>30</sup> Experimental studies on NO and NO<sub>2</sub> toxicity vary in dosage and length of exposure. Dogs exposed to very lethal (5000–20,000 ppm) of NO developed severe pulmonary edema, acidosis, and hypoxia secondary to methemoglobin.<sup>31</sup> Conversely, rats exposed to 15 minutes of 1500 ppm of NO showed no evidence of histopathologic lung changes when compared to controls.<sup>32</sup> There is no pathologic evidence of NO toxicity with exposures of less than 100 ppm in both rats and rabbits. A study in young rats, exposed to NO<sub>2</sub> at two different concentrations (2.0 ppm and 17 ppm) for up to 360 days, revealed cell proliferation in the terminal bronchioles and alveoli with both NO<sub>2</sub> concentrations, but the histology reverted back to normal 5 days after exposure had ceased.<sup>33</sup> Extrapolation of results of NO<sub>2</sub> toxicity across different species may be fallacious. For example, it has been reported that squirrels, monkeys, and hamsters tolerate inhaling a dose of NO<sub>2</sub> 10 times higher than that tolerated by mice.<sup>34</sup> It is possible that in humans, inhaled NO<sub>2</sub> may affect the lung at concentrations lower than the recommended standards. In a recent study, inhalation of 2 ppm to 5 ppm of NO<sub>2</sub> was associated with lymphocytosis and mastocytosis in bronchoalveolar lavage fluid.<sup>35</sup>

### Inhaled NO in Pulmonary Hypertension

A number of experimental studies in different animal species have conclusively demonstrated that NO is a selective pulmonary vasodilator with no systemic vascular effects.<sup>32–34,36–38</sup> Both newborn and adult animals have been studied and the experimental models used were diverse. Pulmonary hypertension was induced by hypoxia (FiO<sub>2</sub> ≤10%), intrauterine ligation of the patent ductus arteriosus, delivery with intact placenta circula-

**Table 1. Proposed Indications for Inhaled Nitric Oxide Therapy**

#### Infants and Children

- Primary PPHN
- PPHN associated with congenital diaphragmatic hernia
- Pulmonary hypoplasia
- PPHN associated with sepsis
- Acute pulmonary hypertension
- ARDS
- Before and after cardiopulmonary bypass
- NO in association with ECMO?

#### Adults

- ARDS
- Chronic obstructive lung disease
- Acute and chronic pulmonary hypertension
- Determination of lung membrane diffusing capacity<sup>40</sup>
- Pulmonary hypertension after mitral valve replacement
- Heart transplant recipients
- Postoperative graft dysfunction after lung transplantation
- Asthmatic attacks?



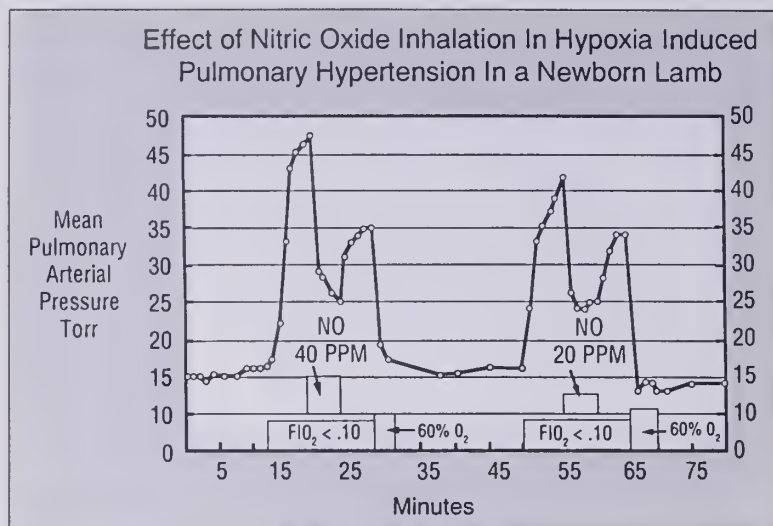


Figure 2. Plot of effects of inhaling 40 ppm and 20 ppm on mean pulmonary pressure (MAP) in a newborn lamb while breathing at  $\text{FIO}_2 < .10$ . MAP increases when NO is discontinued and returns to baseline at  $\text{FIO}_2 0.60$ .

tion, and use of an endoperoxide analog of thromboxane (U46619).

I have reproduced the results of previous studies in newborn lambs exposed to hypoxia and treated with NO at different concentrations.<sup>39</sup> Figure 2 shows a typical response pattern. A dose-response relationship has been recently described.<sup>38</sup> The effect of inhaled NO on mean pulmonary pressure and pulmonary vascular resistance tapers off with dosages higher than 20 ppm in experimental newborn animals with PPHN. Clinical studies have also shown that the maximum effect of NO is between 15 ppm and 20 ppm.

### Clinical Uses of Inhaled NO

To date, inhaled NO has been used as an investigational selective pulmonary vasodilator in a variety of clinical conditions (table). In practice, NO gas is introduced into the inspiratory limb of a ventilator circuit at a point immediately adjacent to the patient connection to minimize exposure time to oxygen and consequent formation of  $\text{NO}_2$ . Circuit gas is continuously aspirated for measurements of NO or  $\text{NO}_2$  by chemiluminescence or electrochemical cells. Chemiluminescence, the most common method of measurement of NO gas, is based on the reaction of NO with ozone.<sup>41</sup> The reaction generates electronically excited nitrogen dioxide molecules. The latter gives off energy as a light emission that is linearly related to the concentration of excited molecules. The principle of operation of electrochemical cells is based on a chemical reaction that produces an electrical signal that is proportional to the concentration of NO or  $\text{NO}_2$  as it diffuses through a plastic membrane into an electrolyte solution. In addition to direct measurements of

NO and  $\text{NO}_2$ , methemoglobin is periodically measured in all patients receiving inhaled NO.

### Inhaled NO Use in Infants, Children

Persistent pulmonary hypertension of the newborn is a syndrome associated with a number of neonatal, cardiac, and pulmonary diseases, including meconium aspiration syndrome, congenital diaphragmatic hernia, group B streptococcal sepsis, and an idiopathic group. Despite the diversity of clinical conditions, the main characteristics of PPHN are altered pulmonary vasoreactivity and marked pulmonary hypertension. PPHN is an ideal condition for testing the usefulness of inhaled NO. Its use can be justified by the following reasons:

- PPHN is likely to be secondary to a temporary deficiency of pulmonary NO endothelial production.
- Severe pulmonary hypertension with PPHN may be fatal.
- Once pulmonary vasodilation occurs; recovery may be anticipated in a few days.
- There are no other selective pulmonary vasodilators.

A number of studies have evaluated the effect of inhaled NO on infants with PPHN. In one study, 15 infants who qualified for extracorporeal membrane oxygenation (ECMO) were treated with 10–20 ppm of NO. All showed improvement in oxygenation. Thirteen recovered; two required ECMO.<sup>42</sup> Methemoglobin concentrations remained at less than 1.5%. In another study, the inhalation of 80 ppm for 30 minutes to severely hypoxemic infants with PPHN resulted in significant increases in oxygenation in all patients without systemic hypotension or significant increase in methemoglobin concentration. In one patient, NO was administered over a 3-week period.<sup>43</sup> A multicenter study involving 20 French centers enrolled 60 newborns with PPHN of various etiologies. Inhaled NO was administered at doses ranging between 10 and 80 ppm.<sup>44</sup> A dramatic or progressive improvement in oxygenation was noted in 47 patients (78%) and transient or no improvement in the remaining 23 (38%). Currently, there are three U.S. multicenter controlled clinical trials whose aim is to determine the effectiveness and safety of NO in PPHN. Preliminary studies indicated that inhaled NO is less effective in septic shock and in severe pulmonary hypoplasia or PPHN associated with congenital diaphragmatic hernia.<sup>45</sup>

Decrease or lack of responsiveness to inhaled NO may be due to progressive atelectasis, associ-

ated pulmonary parenchymal disease, or deterioration in cardiac performance. The therapeutic role of NO inhalation has also been studied in infants and children with congenital heart disease with chronic pulmonary hypertension. In one study, 10 sequentially presenting infants and children with CHD and pulmonary hypertension received NO (up to 80 ppm for 30 minutes). A rapid reduction in both mean pulmonary artery pressure and pulmonary vascular resistance was documented in these spontaneously breathing patients.<sup>46</sup>

An increase in pulmonary vascular resistance often complicates congenital heart disease and can be aggravated by cardiopulmonary bypass (CPB). It has been postulated that postoperative pulmonary hypertension may be secondary to pulmonary endothelial dysfunction caused by CPB.<sup>18</sup> The observation that pulmonary vasodilation occurs with the infusion of acetylcholine preoperatively, but the response is substantially reduced in postoperative patients, while inhaled NO reduced pulmonary vascular resistance in postoperative patients lends credence to this postulation.

In a recent report,<sup>47</sup> inhaled NO (10 ppm) for 30 minutes was used in a 3-month-old infant to treat acute pulmonary hypertension that developed following surgical closure of a ventricular septal defect. A permanent reduction of pulmonary hypertension was thus obtained.

### **Clinical Uses of Inhaled NO in Adults**

Inhaled NO selectively relieves the pulmonary vasoconstriction produced in normal adults by breathing hypoxic mixtures.<sup>48</sup> In one report, the acute effects of inhaled NO (40 ppm) for 10 minutes in 18 patients with either chronic pulmonary hypertension or cardiac disease were studied. A decrease in pulmonary vascular resistance by 5% to 68% was observed.<sup>49</sup> Similar hemodynamic responses to inhaled NO has been documented in six patients who underwent mitral valve replacement for mitral stenosis and chronic (>8 years) pulmonary hypertension.<sup>50</sup>

Pulmonary hypertension occurs frequently in patients with adult respiratory distress syndrome (ARDS); its development is a predictor of increased mortality.<sup>51</sup> Other characteristics of ARDS include increased microvascular permeability and intrapulmonary shunting. Inhaled NO has been used recently in 9 patients with severe ARDS; seven patients received long-term therapy (up to 53 days), and all of these patients survived. Methemoglobin concentrations remained at less than 1.5% and tachyphylaxis was not observed.<sup>52</sup> In-

haled NO was also used in children with ARDS; 5 of 11 treated patients survived. Inhaled NO acutely improved gas exchange in most patients and decreased both pulmonary artery pressure and intrapulmonary shunting.<sup>53</sup>

Recently, it has been shown<sup>54</sup> that even minute inhaled NO concentrations (as low as 60–250 ppb) can at times improve oxygenation in some patients with ARDS. Despite the encouraging results of these preliminary studies, it is not known whether inhaled NO will alter the course of a complex disease such as ARDS, whose main cause of death is the multiple organ dysfunction syndrome. A large-scale multicenter controlled clinical trial will be needed to settle this issue.

A further important group of patients that may benefit from inhaled NO are those with chronic obstructive lung disease (COLD) and pulmonary hypertension. In a study of 13 patients with COLD, inhaled NO at 40 ppm induced a marked and selective pulmonary vasodilation and improved oxygenation by decreasing venous admixture.<sup>55</sup> Similar observations were made in a group of 14 hypoxic patients with COLD and pulmonary hypertension.<sup>56</sup> In addition, a mild bronchodilator effect was noted. Even if inhalation of NO is shown to have significant therapeutic effect, chronic administration would be required. Concerns over chronic administration relate to possible toxicity, difficulties in developing a safe and effective therapeutic system of the gas, and adequate monitoring of inhaled concentrations.

It remains for future studies to determine if inhaled NO is of therapeutic value in cases of chronic pulmonary hypertension. It is unlikely that NO could benefit patients with pulmonary hypertension at later stages of the disease when irreversible structural abnormalities blunt the capacity for pulmonary vasodilation.

Several groups of cardiac and pulmonary surgical patients may also benefit from the therapeutic use of NO for selective pulmonary vasodilation. They include: heart transplant recipients,<sup>57</sup> patients with end-stage cardiac failure awaiting transplantation, and patients with postoperative graft dysfunction after lung transplantation.<sup>58</sup>

Experimentally, inhaled NO has been found to reverse the bronchoconstriction produced by a continuous infusion of methacholine.<sup>59</sup> This observation suggests that NO is a bronchial smooth muscle relaxant. In theory, inhaled NO may be

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useful in patients during acute asthmatic attacks. The spectrum of disorders for which inhaled NO has been used continues to expand. Unfortunately, in many situations the published reports are limited to isolated case reports. For example, a dramatic improvement in arterial oxygenation with marked decrease in pulmonary vascular resistance was found in a patient with end-stage pulmonary fibrosis.<sup>60</sup>

### Potential Toxicity, Safety Guidelines

Inhalation of low doses of NO may be safe, but potential dangers require further investigation. NO reacts with oxygen to form strong oxidants and may have effects on deoxyribonucleic acid (DNA) and be both cytotoxic and genotoxic.<sup>61</sup>

From a biological standpoint, the important chemical reactions are those with oxygen, and its various redox forms in addition to NO<sub>2</sub>. The reaction of NO with superoxide in the lungs produces peroxynitrite. Lung injury may be due to NO<sub>2</sub>, peroxynitrite, and hydroxyl formation.<sup>62</sup> It is likely that redox-activated forms of NO would inactivate surfactant proteins.

Inhalation circuits designed to deliver NO must ensure accurate concentration of NO while maintaining low levels of NO<sub>2</sub>. NO and NO<sub>2</sub> concentrations within a breathing circuit vary with the NO and oxygen concentrations used, and the residence time of NO within the lung and the breathing circuit. Contamination of the environment should be minimized by scavenging the exhaust gases from the breathing circuit. Inhaled NO and NO<sub>2</sub> should be monitored continuously.

Since NO inhibits white blood cells and endothelial cell adhesion,<sup>63</sup> a possible effect of NO on lung host defenses require investigation. NO also suppresses platelet aggregation and adhesion.<sup>64</sup> Inhalation of NO is known to increase bleeding time<sup>65</sup> and thus carries the risk of bleeding in patients with a bleeding diathesis.

### Conclusions

Recent advances in endothelial cell biology have allowed the use of inhaled NO as a selective pulmonary vasodilator. Although promising, this new therapy remains experimental. Several areas require further research and a number of questions require answers:

- Does the use of inhaled NO decrease morbidity and mortality in different disease states associated with pulmonary hypertension and improve outcome?
- Does biological variability influence the dose of NO needed?
- Does the provision of pharmacologic doses of

NO inhibit nitric oxide synthetase and thus prolong the treatment period?

- Are there therapeutic strategies to prolong the action of NO and minimize toxicity?
- Are different treatment strategies necessary for different pathologies?
- What are the best methods to deliver NO?

Before inhaled NO can be recommended for routine use, controlled clinical trials and further study of the potential adverse effects need to be carried out.

Finally, the interest in the role of NO as a vasodilator has resulted in the development of compounds that release NO under physiologic circumstances. It is possible, therefore, that these compounds may become a new generation of pulmonary vasodilators.

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# The Author

George P. Giacoia, MD, is professor of pediatrics and head of the Division of Neonatology at the University of Oklahoma College of Medicine-Tulsa.

## Women Smokers: The Tragedy Is, Oklahoma Is Number One

Edward N. Brandt, Jr., MD, PhD; Robert W. Broyles, PhD; Neil E. Hann, MPH

Oklahoma leads the nation in the proportion of women who smoke, and is sixth in the proportion in the childbearing ages. Furthermore, the incidence of deaths from carcinoma of the lung in women is increasing, as is the number of low birthweight babies. Both of these conditions are associated with smoking. It is clear that Oklahoma physicians should become aggressive in encouraging women to stop smoking.

**S**moking is associated with numerous diseases including emphysema, carcinoma of the lung, and carcinoma of the bladder. Of equal importance is the influence of smoking on the

developing fetus. Smoking is associated with low birthweight and all related complications.

The data in Tables 1 and 2 include the number of women dying from carcinoma of the lung (Table 1) and myocardial infarction (Table 2) for the study period. Note that 8,119 women were reported to have died from myocardial infarction and 3,504 from carcinoma of the lung. Table 3 includes the number of low birthweight babies and, for 1988 through 1990, the percent distribution by age. During the five-year study period, there were 15,548 low birthweight babies born in Oklahoma. Smoking is not the only cause of these conditions, but it is a major factor. Many of these deaths and low birthweight babies are preventable. Hence, the prevalence of smoking in women is especially important.

This article reviews the findings of two studies: (1) the *Current Population Survey*, a national study conducted by the Centers for Disease

Direct correspondence to Edward N. Brandt, Jr., MD, Director, Center for Health Policy Research, OU College of Medicine, PO Box 26901, Oklahoma City, OK 73190.

**Table 1. Carcinoma of the Lung Deaths in Women**

Year	Total	Age					
		<45	45-49	50-59	60-69	70-79	80 & Over
1988	637	15	24	120	223	168	87
1989	707	16	33	100	232	217	109
1990	723	15	20	115	239	228	106
1991	703	25	18	110	224	217	109
1992	734	8	21	109	230	258	108
<b>Total</b>	<b>3,504</b>	<b>79</b>	<b>116</b>	<b>554</b>	<b>1,148</b>	<b>1,088</b>	<b>519</b>

Control (CDC); and (2) the *Oklahoma Behavioral Risk Factor Survey* conducted by the Oklahoma State Department of Health (OSDH). The data from the current population survey are for 1989, the latest year available, and the information from the behavioral risk factor survey is for the years 1988 through 1992. Both sets of data are derived from statewide random samples.

## Data

*Healthy People 2000* has established a set of

numerical objectives, organized in 22 categories, for improving the health of Americans to be achieved by the year 2000. These objectives were defined by a large group of physicians and public health personnel led by the U.S. Public Health Service. The objectives provide standards by which progress can be measured and, as such, represent a major contribution to our efforts to prevent disease.

The *Behavioral Risk Factor Survey* is administered annually to a statewide random sample

**Table 2. Myocardial Infarction Deaths in Women**

Year	Total	Age					
		<40	40-49	50-59	60-69	70-79	80 & Over
1988	1,761	12	34	86	257	528	844
1989	1,611	5	24	79	223	486	794
1990	1,645	7	26	71	242	490	809
1991	1,620	21	20	70	222	482	805
1992	1,482	12	19	76	195	418	762
<b>Total</b>	<b>8,119</b>	<b>57</b>	<b>123</b>	<b>382</b>	<b>1,139</b>	<b>2,404</b>	<b>4,014</b>

**Table 3. Low Birthweight Babies**

Year	Total	% by Mother's Age					
		15-19	20-24	25-29	30-34	35-39	40-44
1988	3,093	8.23	6.46	5.82	6.11	7.48	5.61
1989	3,059	7.82	6.28	5.73	6.40	7.82	6.79
1990	3,093	8.29	6.17	5.86	6.31	6.75	9.80
1991	3,122	Data Not Available					
1992	3,181	Data Not Available					
<b>Total</b>	<b>15,548</b>						

**Table 4.\* National Data — States**

Percent of Women Smokers	Women Total (1) No. of States	Women of Childbearing Age (2) No. of States
<20	4	3
20-24	15	10
25-29	22	29
30-34	9	8
>35	1	1
<b>Total</b>	<b>51</b>	<b>51</b>

\*Current Population Survey



Table 5.\* Highest Percentages of Women Smokers

State	Total (%)	State	Child Bearing Ages (%)
Oklahoma	35.4	West Virginia	36.2
Kentucky	33.3	Missouri	34.0
Colorado	33.2	Kentucky	33.2
		Michigan	32.6
		Delaware	32.1
		Oklahoma	31.5

\*Current Population Survey

of Oklahomans aged 18 and older. Each question about risk factors was answered by the individual member of the sample, and no attempt was made to verify their responses.

Table 4 includes a summary of the nationwide results from the current population survey. Column 1 of this table is the distribution of states by percent of women, ages 35 to 64, who smoke; column 2 indicates the distribution of states by the percent of women ages 18 to 44 who smoke. Only one state has a percentage of women smokers greater than 35% and that is Oklahoma. Indeed, the percentage of women in Oklahoma who smoke is 35.4%, a shocking number.

Table 5 reinforces this tragedy by showing the states with the highest percentages of women smokers. Oklahoma leads the nation in the percentage of women who smoke and is sixth in the percentage of women of childbearing age who smoke. Both of these findings suggest that the costs of medical care in Oklahoma will increase, an outcome that will be accompanied by more pain, suffering, and death. The comparison of Oklahoma with other states in our region, shown in Table 6, is further confirmation of the seriousness of our problem. These data indicate we are number one in the percentage of all women who smoke and are exceeded only by Missouri in the percentage of women in childbearing age.

Presented in Tables 7, 8, and 9 are percentages of women who smoke by age, race, and educational attainment, respectively, derived from the Oklahoma Behavioral Risk Factor Survey. From these data, it is clear that Caucasian women between the ages of 20 and 60, with less than a high school education, have the greatest percentage of smokers. Of special note is that women with a high school education or less have a smoking rate of 28.6% compared to 24.6% overall. Nevertheless, 20.7% of women with a college degree smoke. As indicated in Table 6, 35.4% of women ages 35-64 smoke, while the data presented in Table 7 indicate that, among women of all ages, only 24.6% smoke. These findings suggest that preventive measures might be concentrated among younger females in Oklahoma.

These data are at best shocking and indicate a future problem if something is not done soon.

### Discussion

Smoking is associated with many serious threats to life as well as the development of chronic diseases. Hence, it is critical that physicians direct their attention and efforts to reducing the prevalence of smoking among women, especially those

Table 6.\* Regional Comparisons

State	All Women (%)	Childbearing Age (%)
Oklahoma	35.4	31.5
Missouri	30.9	34.0
Arkansas	29.8	29.9
Louisiana	26.2	27.8
Texas	26.1	22.0
Arizona	22.8	21.2
New Mexico	22.3	22.7
Kansas	18.7	24.0

\*Current Population Survey

Table 7.\* Age of Women Smokers

Age	All Women	Smokers	%
<20	173	24	13.9
20-29	611	153	25.0
30-39	837	252	30.1
40-49	622	208	34.6
50-59	482	130	27.0
60-69	502	115	22.9
70 and over	627	65	10.4
Total	3,854	947	24.6

\*Oklahoma Behavioral Risk Survey

in childbearing ages. The data presented herein are threatening to the future of health care in Oklahoma since they portend increased costs, increased suffering, increased numbers of low birthweight babies, and unnecessary deaths. Unfortunately, the state legislature stopped Medicaid payments for smoking cessation using the nicotine patch in 1993.

### What Can We Do?

- Physicians should encourage women to participate in smoking cessation programs and be supportive of their efforts to quit.
- Hospitals should develop effective smoking cessation programs that are accessible to all women who smoke.
- Physicians and hospitals should cooperate with state and local health departments to inform women of the risks of smoking to themselves and to their children (born and unborn)
- Physicians should support legislation that prevents the sale of tobacco to children and that restricts tobacco use in public places.
- Physicians should encourage insurance carriers and Medicaid to pay for smoking cessation programs.

### References

1. Centers for Disease Control, Current Population Survey, 1989.
2. Oklahoma State Department of Health, Behavioral Risk Survey, 1988 -1992.

### The Authors

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Dr. Broyles is professor, DHAP and Member, CHPRD, OUHSC

Mr. Hann is director, Office of Tobacco Use Prevention, Oklahoma State Department of Health.

**Table 8.\* Race of Women Smokers**

Race	All Women	Smokers	%
Caucasian	3,366	854	25.4
Black	249	51	20.5
Asian	9	2	22.2
Indian	141	34	24.1
Other	49	6	20.4
Total	3,814	947	24.8

\*Oklahoma Behavioral Risk Survey

**Table 9.\* Educational Level of Women Smokers**

Educational Level	All Women	Smokers	%
8th Grade or Less	250	44	17.6
Some High School	438	140	32.0
High School Grad.	1,353	399	29.5
Tech. School	119	33	27.7
College	1,454	301	20.7
Post Graduate	191	30	15.7
Total	3,805	947	24.9

\*Oklahoma Behavioral Risk Survey



## King Will and the Foul Humours: A Fable for Reform

Robert E. McAfee, MD

Ladies and gentlemen, over the course of the last two years, we've been asked to believe several fairy tales in the name of health system reform. So today, I'd ask your indulgence as I tell one last fairy tale. I'd like to tell you the story of King Will and the Foul Humours.

Once upon a time, there were a King and Queen who lived in a big, white castle, surrounded by a big, black fence, that was regularly patrolled by knights wearing dark visors.

Before King Will had become King, he lived in the forest, where he took from the rich and gave to the poor. This made him quite popular—especially with the poor—but he mistook his popularity for wisdom, and no sooner had he moved into the white castle than he began searching throughout the Kingdom for problems to solve.

He said to the Queen: "Queen (for he always addressed her in this manner) 'do you perceive any problems in the Kingdom that criest out for solutions?'"

The Queen replied. "Are you kidding? The knighthood could use a little more diversity. The plague is making a comeback. And every time you take your exercise, you can't stay away from the butcher shop."

Now, the King ignored this last comment, but the problem of the plague seized his mind.

He knew that many of his subjects were unable to see the Wizards—those Doctors of Physic who ministered to the ill. And he knew that the tithe for having their humours checked was rising faster than the Consumer Price Index.

But the King also knew that the magic of the Wizards was unsurpassed. Citizens from neighboring kingdoms would travel many leagues just to see them. And the vast majority of his subjects were well contented with their system of care, and could see a Wizard almost whenever they wanted to.

The King mulled over his dilemma—he was famous for mulling and wonking—and finally, he came to a decision. So he said to the Queen: "It is up to us to give the people the health care they deserve."

Now a strange thing happened. The Queen might well have turned to the Wizards, who themselves had been discussing this problem and recommended remedies for many years. But instead, she summoned a noted sorcerer from a far away land, Ira of the Unruly Hair. And Ira gathered a legion of fellow sorcerers, and convened them in a secret Star Chamber, a place so dank and dark no light could enter or escape.

They labored while the Spring blossoms scented the trees. And they labored while the sun ripened the fruit on those trees. And they labored while the leaves on those trees began to fall to the earth. Then, one day the Queen sent a crier throughout the Kingdom to announce

Report of President Robert E. McAfee, MD, at the 48th Interim Meeting, American Medical Association House of Delegates, Honolulu, Hawaii, December 4, 1994.



that Ira of the Unruly Hair had indeed produced a mighty plan and it would be wondrous to behold.

Then they gathered every beast of burden in the Kingdom, all the oxen and horses and mules, and they hitched them to the machine on which they had placed the great plan—for the plan was not only great in inspiration but great in size—and they hauled it to the big, white castle and presented it to King Will.

And King Will, who was chewing on the drumstick of a great wonk, placed his seal upon the plan.

Now, on a hill looking down on the white castle was a great hallowed hall with a round dome. And in that hall were knights of renown from every other castle in the Kingdom. They were divided roughly into two camps, and the shields of one camp bore the sign of the donkey, and the shields of the other the sign of the elephant.

It was these knights' job to decide the laws of the land, but in truth, most of their days were spent in their favorite sport, which was jousting. The leader of the donkeys, Sir George of the Land of Lobster, was one of the most feared jousters. He said: "Let them bring us the plan of King Will, so we can make it the law of the land."

And the oxen and horses and mules began to haul the mighty plan from the white castle to the hall on the hill. But a hew and cry went up throughout the hall almost as great as during the debate over where the knights could tie up their horses.

And the leader of the elephants, Sir Bobdole of the Land of Corn, who was famous for his skill with the lance, spoke: "Not so fast," said Sir Bobdole. "That plan has more fat than a roasted boar."

For it so happened that the donkeys and the elephants had opposing views on the health care of the people. The donkeys believed that the King and the knights should design the system, and decide what kind of training should be given to the Wizards, and which Wizards the people could see. And the donkeys believed if the subjects would pay their tithe to them—they could fix the system.

But the elephants said the people were tithed too much and the money was wasted on things like midnight falconry. And they said the King and the Great Hall should stay out of

it. And they accused the donkeys of being beholden to a knight of yore, Sir Franklin of the New Deal.

So the knights of the donkeys and the knights of the elephants devised their own plans: Sir George of the Land of Lobster, Sir Chafee of Rhodes, Sir Stark of Fortney, Sir Teddy of Camelot, and others. But the champion of one plan, Sir Rosty of the Windy City, was injured when he was out delivering a gift to a subject and fell into a moat.

But these plans, too—five in all—were also placed on great machines and hauled out to be viewed by the people. And the knights returned to their jousting.

And now thick fog hid the sun, and thunder rent the air, and torrents of rain turned the land into mud, and the plans of King Will and all the plans of the Great Hall got bogged down.

All the while the Wizards offered advice and counsel on the health of the people. And the people heard them and gave the Wizards their confidence. But the King and Queen and many in the Great Hall gave the people only the cold shoulder and the deaf ear.

Now there arose in the land a new evil that further threatened the health care of the people.

One day, five great dragons from the Kingdom of Insurers appeared in the sky, and encamped in every corner of the Kingdom. And on their wide wings were markings sinister and strange. One had what looked like the giant rock of Gibraltar. Another had what looked like a great umbrella of crimson. Still a third was marked with a small cartoon beagle.

People began to call them the Big Five, and they breathed fire, and made a bellowing that was terrible to hear, and were in general unmannerly. And they began making forays across the land, swooping down upon unsuspecting subjects and herding them into their own regions.

They swallowed up entire villages. And they plucked up select Wizards, and demanded that they tend only to the citizens they had corralled, and none other. And the citizens raised up a cry because they could no longer see the Wizards who had so carefully watched over them.

But as the dragons' plunder continued, their appetites, rather than be sated, grew only more ravenous. It was rumored that some dragons even tried to eat some of the others. And clouds darkened the sky and a great indiges-

For it so happened that the donkeys and the elephants had opposing views on the health care of the people.

tion struck the bowels of the people, and they were sore afraid.

Ladies and gentlemen, most fairy tales end with everyone living happily ever after.

And for that to happen here, you might expect that a white knight would appear to slay the dragons and knock some sense into the King, the Queen, and the knights of the hall on the hill. But the ending to this story has yet to be written.

The great plans of the King and Queen and all the knights of the Hall got bogged down under their own weight. The wheels came off the machines, and all the King's horses and all the King's men ... well, you're already familiar with that verse.

And as a result, many knights lost their shields and left the Great Hall forever—although most went on to join the newly formed Guild of Lobbyists. Some who remained were hoping to fix the Kingdom's health system by mixing up a special magic potion. Its main ingredient was Eye of Newt.

Most of the knights, however, just went back to their jousting.

As for King Will and his Queen, the whole

experience was enough to make them wish they were back in their forest, in their house surrounded by rushing white water.

The King has recently taken to traveling to foreign lands. But he never misses a chance to remind the Queen that you just can't trust a sorcerer.

What remains are the Wizards and the people—the true heart and soul of any health care system.

The people will continue to receive the best care on Earth when they demand nothing less.

We Wizards must never forget that we can deliver that care only if we're united in our vision, our voice, and our leadership.

And I believe we can write a Fairy Tale ending if we never forget that the true power of our magic is not what's under our hats, but what's in our hearts.

And for allowing me the privilege to be your chief wizard for a year—thank you very much.



## Long's OMPAC accomplishments get recognition at board meeting

Larry L. Long, MD, Oklahoma City, currently the OSMA's president-elect, was in the spotlight recently for one of his most important past contributions—OMPAC's 1993 runner-up award for the greatest percentage of members for a unified state.

At the November 13, 1994, meeting of the OSMA Board of Trustees in Oklahoma City, Dr. Long accepted a plaque recognizing and honoring OMPAC for its accomplishment, which came under Dr. Long's leadership. Dr. Long had chaired the OMPAC board for eight years before stepping down last year.

The award was presented to Dr. Long by Sherry Strebel, past president of both the OSMA Alliance and AMA Alliance. She is currently on the Board of Directors of the American Medical Political Action Committee (AMPAC).

In other action:

- President Jay A. Gregory, MD, Muskogee, reported on the status of PROklahoma Care, as well as on AMA meetings regarding practice parameters, managed care, and the federation study group, which he attended. He also thanked everyone who had testified at the workers' compensation hearings and Dr. Edward N. Brandt, Jr., who chairs the Council on State Legislation and Regulation.

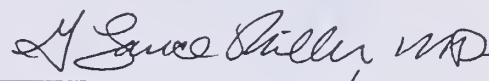
- In her secretary-treasurer's report, Dr. Carol Blackwell Imes, Oklahoma City, reviewed her summary of expenses and revenues and distributed copies of the preliminary budget for 1995. She also noted that the Arthur Andersen audit of special procedures was still in progress. At the conclusion of Dr. Imes' report, Vice-President David L. Harper, MD, Tulsa, reminded his colleagues of their fiduciary responsibilities as trustees of the association.

- Reporting on PLICO, Rod Frates of C.L. Frates and Company explained an upcoming 7% increase in PLICO liability premiums and 5% increase in PLICO Health premiums. He said the increases were necessary to comply with risk-based capital standards. He also noted that PLICO had requested a special closing session with the accountants doing the Arthur Andersen audit.

- Dr. Jay Stein, provost of OUHSC, reported on upcoming changes in Medicaid and their effect on the OU School of

## NOTICE

During 1993 and 1994, I made several inappropriate and inaccurate public statements regarding Dr. Carol Blackwell Imes of Oklahoma City. My most outspoken verbal disparagement of Dr. Imes occurred at the Tulsa County Delegation Caucus Meetings of the Oklahoma State Medical Association (OSMA) in March and April of 1994. At the annual OSMA meeting, I made inappropriate and inaccurate statements following a speech by Dr. Imes to the Tulsa County Caucus. Though I have no excuse for my actions, such inappropriate and inaccurate statements may have influenced votes for Dr. Imes' opponent in the election for President-Elect of OSMA. I sincerely regret those comments and therefore am making this public apology for any and all disparaging remarks I have made. I apologize to Dr. Imes, the OSMA staff, and physician members of the OSMA for my inappropriate behavior and comments. I look upon my remarks with remorse and hope this public record of my apology eases whatever injury I may have caused. I do not wish to harm our organization and will refrain from acting in a similar manner toward other OSMA members and officers in the future. I feel that Dr. Imes performed excellent service as Secretary/Treasurer of the Association and should be commended.



G. Lance Miller, MD

Medicine. He expressed concern because University Hospital is the entity receiving the highest percentage of Medicaid funding, and the changes could force the hospital to close or to become a community-based activity. He felt that to compete, the best option would be to become a partner with another group.

- Claudia Kamas, OSMA associate director and legislative liaison, reported on the Legislature's special session on workers' compensation reform and distributed OSMA General Counsel Ed Kelsay's summary of the resulting bill [see page 35]. She noted that, with few exceptions, medicine was excluded from the more than 30 meetings between labor and industry. Mr. Kelsay said there would be a new fee schedule



## Board Meeting *(continued)*

and that an independent medical examiner (IME) was created in the bill to prevent "dueling doctors," said by some to be responsible for many workers comp problems. Dr. Fred Ruefer, Muskogee, proposed the OSMA not pay dues for membership in the State of Oklahoma Chamber of Commerce and Industry if such treatment of physicians continued. After some discussion, a motion was made, seconded, and approved to send a letter to the state chamber telling them of the association's unhappiness and serving as notice that if this treatment continues, OSMA will withdraw its support of the chamber.

- A motion was made, seconded, and approved that OSMA will not endorse the 1115b application for the Medicaid waiver, as it applies to Medicaid and state employees only.

- Executive Director David Bickham reported that a task force had been created to study CME hours as a requirement for OSMA membership. He also reported that the AMA will conduct a membership survey regarding mandatory AMA membership, and also the extension of OSMA membership to osteopathic physicians. Recommendations from the task force and results of the survey will be presented at the 1994 Annual Meeting in April.

Mr. Bickham reported that the association has been notified that it can make only a \$15,000 to \$16,000 contribution to the old pension plan this year.

- A motion was made, seconded, and approved that an

amount not to exceed \$30,000 be spent on the first phase of the OSMA building renovation.

- OSMA Life Membership applications were approved for the following doctors: Danna Ryan, MD, Duncan; Julius L. Scates, MD, Edmond; and Drs. James K. Arnold, Clifford J. Blair, R.B. Carl, George H. Jennings, Howard P. Mauldin, Robert J. Morgan, and Sidney P. Traub, all of Oklahoma City.

□

## Call for Resolutions

All resolutions to be presented to the Oklahoma State Medical Association House of Delegates Annual Meeting must be received in the OSMA executive offices no later than thirty (30) days prior to the meeting. This year's meeting will be April 6-9, 1995, at the Marriott Hotel in Oklahoma. County medical societies or individuals wishing to submit resolutions should mail them to OSMA, 601 Northwest Expressway, Oklahoma City, OK 73118. Should you need assistance in drafting such resolutions, please contact the executive offices.

**Resolutions must be submitted  
on or before March 7, 1995**



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## They're off! PROklahoma Care and OPN break from the gate

Nearly two years of work by the Oklahoma State Medical Association (OSMA) Board of Trustees, Ad Hoc Committee on Managed Care and the OSMA House of Delegates culminated on January 1, 1995, when stock in PROklahoma Care went on sale and membership in the Oklahoma Physicians Network (OPN) was extended to the physician members of the OSMA and the Oklahoma Osteopathic Association (OOA).

When it became apparent that first the private sector and then the federal government in the form of the Clinton Administration were serious about health system reform, OSMA leaders wondered how best to position

**PROklahoma<sup>TM</sup>**  
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physicians so they would retain control of the practice of medicine and the medical decision-making process.

A series of meetings between OSMA leadership, county medical societies and other physician groups was held across the state. Some physicians thought the OSMA was starting too late. Others did not think physicians could compete in the sometimes vicious medical marketplace. Others feared failure. But none wanted to give up without a fight.

Therefore the OSMA Board of Trustees commissioned The Garvey Group of New York, a health system consulting firm which successfully guided the Connecticut State Medical Society in its 1986 formation of a statewide, physician-owned and -operated managed care organization (MCO), to conduct a feasibility study of a similar project in Oklahoma.

The results of the study were sufficiently positive and in April 1994, the OSMA House of Delegates approved the following plan:

1. Create the Oklahoma Physicians Network, an independent practice association (IPA) with membership open to members of the OSMA and OOA. OPN would be a nonprofit organization with no stock and governed by a temporary Board of Directors consisting of physicians only.

2. Incorporate PROklahoma Care, a for-profit managed care organization which would be capitalized by the sale of stock to OSMA and OOA members.

The purpose of PROklahoma Care and the Oklahoma Physicians Network is simple: to develop a managed care organization that will keep physicians and their patients in control of their medical care.

PROklahoma Care and OPN will:

1. Preserve the traditional patient/physician relationship.
2. Provide our patients with affordable medical care of the highest quality.
3. Fairly compensate medical professionals.

### Commonly asked questions about PROklahoma and OPN

#### When can I buy PROklahoma Care stock?

Now. You should already have received a white box containing the PROklahoma Care stock prospectus, the OPN participating physician agreement, a videotape, and other supporting material. If you have not received this material call the OSMA, 405-843-9571 or 1-800-522-9452, or George W. Barnes, 405-524-7811.

#### How much will the stock cost?

\$3,000 a share through March 1, 1995; \$3,500 from March 2 through April 1, 1995; and \$4,000 after April 1, 1995.

#### Who can buy PROklahoma Care stock? How much can they buy?

Only fully licensed physicians who are members of the Oklahoma State



G. Lance Miller, MD  
Chairman of the Board  
PROklahoma Care



Jay A. Gregory, MD  
Chairman of the Board  
Okla. Phys. Network

Medical Association and the Oklahoma Osteopathic Association who are residents of the State of Oklahoma can buy stock. Each physician may buy one (1) share of stock, which equals one (1) vote.

#### Must I buy PROklahoma stock to participate in OPN?

Yes.

#### How much will OPN membership cost?

\$250 the first year, which covers credentialing and other administrative costs. Subsequent fees will be set by the board of OPN.

#### What happens to my stock at retirement or upon my death?

At retirement, physicians may convert their PROklahoma Care stock to a Class "B" non-voting share or sell it at book value back to the company. Upon death, the physician's estate must sell the stock at book value back to the company.

#### How much stock will be offered initially? How much capital is needed to start the company?

A total of 4,000 shares at an opening price of \$3,000 per share will be offered, with the potential to raise \$12 million in capital. It is estimated that \$6 million will be needed to start the company.

#### What happens to my money if

(continued)

## PROklahoma (continued)

### PROklahoma Care does not raise enough capital?

Your deposit will be returned. Please remember that PROklahoma Care needs statewide physician participation to succeed.

### What can I lose if PROklahoma Care fails?

Physicians can lose only their initial investment. However, if PROklahoma Care has a contract with a group of patients, physicians will have to provide their services to those patients for the remainder of the contract period, which will likely be for less than one year.

### What about utilization review?

There will be strict utilization review and quality assurance. PROklahoma Care and OPN will use state-of-the-art computer hardware and software. And remember, all UR and QA activities will be conducted by your peers, Oklahoma physicians, not non-physicians in Hartford or Los Angeles.

### What will be the reimbursement methodology?

A modified UCR schedule based on an MDR computer program will be used initially. In addition, since many primary care physicians have expressed a preference to be paid under capitation, that option will be available to them.

### Will there be a single, statewide reimbursement zone?

Yes.

### What about antitrust?

While antitrust is always a concern, the problem appears to be the number of patients rather than the number of providers. Legal counsel has advised the PROklahoma Care Board that the company is in a safe antitrust harbor until it enrolls 30 to 40 percent of the potential patients in Oklahoma.

### Can any other managed care plan in Oklahoma meet the goals and objectives of PROklahoma Care and OPN for physicians and their patients?

No.

Ⓜ

## Attention: Physicians



Ed Asner, Actor

### Have your patients' medicines had a check-up?

Many of your patients take several different medicines every day. Separately each one works well. But if they take two or more different medicines in combination without checking with you to be sure they work safely together, they can sometimes be harmful...even dangerous.

The next time you prescribe a medicine, ask your patients:

*"What other prescription and nonprescription medicines are you taking?"*

*A public service message from the National Council on Patient Information and Education (NCPPIE) and the U.S. Administration on Aging*

Write for free information on patient medicine counseling.

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666 Eleventh Street, NW  
Suite 810  
Washington, DC 20001

OR FAX:  
(202) 638-0773



# Counsel summarizes provisions of new workers' comp laws

By Ed Kelsay  
OSMA General Counsel

The latest attempt to reform Oklahoma's Workers' Compensation laws was passed by an extraordinary session of the state legislature and signed into law on November 4, 1994. The act was 54 legal-sized pages long and contained 56 sections.

The following is a section-by-section summary of the act and a notation, where appropriate, of the current Oklahoma Statute affected:

**Section 1 (21 OS 1663)** — Amends the list of possible frauds regarding workers' compensation and is aimed specifically at contractors and others who falsify certificates of coverage or non-coverage which are used to mislead customers and/or insurers.

**Section 2 (22 OS 152)** — Extends the statute of limitations for workers' compensation fraud from three (3) years to seven (7) years.

**Section 3 (36 OS 902.3)** — New law requiring the State Board of Property and Casualty Rates to develop a method of equalizing workers' compensation insurance premiums between high-wage and low-wage employees working in similar risk positions. The legislature may disapprove the method the board selects.

**Sections 4-10 (36 OS 1250.2 et seq.)** — The amendments to these portions of the law exempt the State Insurance Fund from the jurisdiction of the State Insurance Commissioner for practices covered by the Unfair Claims Settlement Practices Act.

**Section 11 (36 OS 6701)** — A new section requiring workplace safety services to be provided by all workers' compensation insurers. The insurers must notify the policyholders that they provide workplace safety training and consultations.

**Section 12 (40 OS 425)** — The State Commissioner of Labor is directed by this new section of law to compile a list of the most hazardous industries in the state each year and distribute that list to every insurer that writes workers' compensation policies.

**Section 13 (36 OS 6702)** — New law that complements Section 11 above requiring insurers to develop safety programs for all policyholders that are included in the Labor Department's list of hazardous industries and that have workplace accidents or health risk experiences that are 25% or worse, than other businesses in their industry. Safety programs will be required for any policyholder with accident or risk experiences that are twice as bad as other businesses in the same industry category. Insurers must notify policyholders when they are required to develop safety programs. Safety programs may be developed by the insurance company, the Department of Labor, private safety consultants, or the vo-tech schools. Insur-

ance companies will face license revocation for failing to offer the safety programs required. If a policyholder fails to comply with the safety program requirements, the insurer may cancel their coverage or add a 10% premium surcharge. The Department of Labor will report to the governor and the legislature on how well the new safety programs are working.

**Section 14 (85 OS 61.2)** — New law complementing Sections 11 and 13 above requiring safety plans for all employers that are self-insured and all group self insurance plans and requiring notice of plan implementation of safety programs be given to the Workers' Compensation Court administrator.

**Section 15 (36 OS 903.2)** — Workers' compensation rates may not be increased by insurers because of the new workplace safety program requirement.

**Section 16 (74 OS 18m-1)** — This is an amendment of current law providing immunity for "whistle blowers" who assist in the prosecution of workers' compensation fraud.

**Section 17 (85 OS 3)** — This section amends current law and contains several provisions. One provision is in response to a recent opinion of the Supreme Court of Oklahoma (the *Ponca City Welfare Association* case) which held that nonprofit organizations are not covered by the Workers' Compensation Act. This section eliminates the exemption for nonprofit employers, but at the same time clarifies that volunteers continue to be outside the act.

Another provision modifies the method for adopting changes in the "Guides to the Evaluation of Permanent Impairment" published by the AMA which are used for assessing injuries. Current law requires that the court administrator has no discretion and must adopt all changes within 120 days of their publication. This change allows for discretion and for advice from the Physicians Advisory Committee. Any recommendation of the court administrator for adoption of a method or system to be used in place of or in combination with the AMA Guides will be subject to disapproval by the legislature.

This section also defines "maximum medical improvement" to mean that no further material improvement would reasonably be expected for continued medical treatment or the passage of time. It also defines "Independent Medical Examiner" to mean a licensed physician authorized to serve as a medical examiner pursuant to Section 27, below.

"Certified Workplace Medical Plan" is defined to mean an organization of health care providers, certified by the commissioner of health, that has entered into a contractual agreement with a self-insured employer, group self-insurance association plan or an employer's workers' compensation insurance carrier to provide medical care under the Workers' Compensation Act. The law provides, "Certified plans shall only include such plans which provide medical services and payment for services on a fee-for-service basis to medical providers and shall not include other plans which contract in some other manner, such as capitated or pre-paid plans;..."

**Section 18 (85 OS 3.6)** — Amends current law to require that any party appealing a workers' compensation court decision must pay a \$125 non-refundable fee to be used for court administration and to provide additional funding for the Attorney General's Fraud Unit, in addition to providing worker counselling and safety services.

**Section 19 (85 OS 3.7)** — Requires all insurers to report the use of independent medical examiners in permanent disability cases by amending current law.

**Section 20 (85 OS 3.9)** — The name of the workers' compensation ombudsman is now changed to "Workers' Compensation Counselor" and expands the duties regarding public information and requires educational seminars and workshops for medical providers.

**Section 21 (85 OS 5)** — Amends current law to prohibit an employer from discharging any employee because of the employee's choice of workers' compensation medical plans.

**Section 22 (85 OS 13)** — A slight increase in temporary disability benefits is provided by this amendment through reducing the period during which no compensation is payable from seven (7) days to three (3) days.

**Section 23 (85 OS 14)** — A long section amending current law to require the attending physician to notify the employer or insurer whenever an employee is released from medical care and ready to return to work or able to return for light duty with restrictions.

This section deals with medical care for workplace injuries. It allows a worker to choose between a physician that they or a member of their immediate family has previously seen or an employer's workplace medical plan. Workplace medical plans are similar to managed care provider networks. If an employee chooses a physician outside of a plan, all treatment and any referrals must comply with the rules of the workplace medical plan if an employer has such a plan.

This section also requires the workers' compensation court administrator to adopt a new fee and treatment schedule based on a relative value system with conversion factors appropriate to Oklahoma. The new schedule will be adopted by January 1, 1996 and will be designed to reduce system-wide costs by 5%. The current fee schedule will remain in effect and frozen until the new schedule is adopted.

**Section 24 (85 OS 14.2)** — This new law contains provisions relating to the procedures for employees to select either the employer's workplace medical plan or a personal physician for the purpose of treating workplace injuries. Self-insured employers that have collective bargaining agreements in place must have workplace medical plans approved also. An employee must make a decision within 30 days of employment or within 30 days of the time the employer puts a workplace medical plan into operation. Employees may make changes in their selection during annual enrollment periods.

**Section 25 (85 OS 14.3)** — The application process for Certified Workplace Medical Plans is set out in this section. Certified plans must

## Influenza: It's that time again

Influenza activity in the United States began unusually early in 1993, with three outbreaks of influenza type A(H3N2) in Louisiana, associated with high attack rates, during August and early September. Usually, in the U.S., influenza virus infections during the summer or fall occur as sporadic cases rather than as outbreaks, although outbreaks of influenza during the summer have been reported and are often associated with earlier-than-usual epidemic influenza activity. Despite the early outbreaks, influenza activity peaked nationally during the last week of 1993 and the first week of 1994, consistent with a typical flu season. Reports of influenza-like illness received through Oklahoma's influenza surveillance system peaked the week ending January 8, 1994.



During the 1993-1994 season, influenza type A(H3N2) predominated in both the United States and Oklahoma. Of the 3,963 influenza viral isolates reported to the Centers for Disease Control and Prevention from World Health Organization collaborating laboratories in the U.S., 99.9% were influenza type A; only four were type B. The only strain of

influenza isolated in Oklahoma was A/Beijing/32/92 (H3N2), which was included in the influenza vaccine. In Oklahoma influenza surveillance participants submitted a total of 190 influenza cultures; 81 of these cultures were positive for A/Beijing, and were found in persons of all age groups. This paralleled the national experience since outbreaks were reported in all age groups, but most occurred in schools.

The 1994-95 season trivalent influenza vaccine for the United States contains A/Texas/3G/91-like, A/Shandong/9/93-like(H3N2), and B/Panama/45/90-like viruses. This combination was based on the antigenic analysis of recently isolated influenza viruses and the antibody response of persons vaccinated with the 1993-94 vaccine.

Influenza vaccine is strongly recommended for any person 65 years of age or older, children and adults with chronic pulmonary or cardiac diseases, residents of long-term care institutions, persons who are immunosuppressed, and children 6 months of age or older who are taking long-term aspirin therapy. Health care workers and others (including household members) in close contact with persons in high-risk groups should also be vaccinated. In addition, influenza vaccine may be administered to any person who wishes to reduce the chance of becoming infected with influenza. □

## Workers Comp (continued)

provide quality services, provide convenient access for participants in a geographic region, include financial incentives to reduce service costs, use peer review, dispute resolution, case management, and utilization reporting, and provide timely emergency authorization of medical providers not in the plan. An approved plan must not discriminate against any provider. The Commissioner of the Department of Health will review plans for approval and may add additional requirements that are necessary to approve a quality workplace health plan.

**Section 26 (85 OS 16)** — Amends current law to allow the workers' compensation court discretion to order or not order vocational rehabilitation services to injured workers.

**Section 27 (85 OS 17)** — The general requirements to be followed by the workers' compensation court administrator in choosing physicians as independent medical examiners is set out in this section. The administrator will include the most competent and experienced physicians from the fields of expertise most commonly used in workers' compensation. Physicians that have previously served as "third physician" examiners will be grandfathered in as independent medical examiners. This section also prohibits a physician who has treated an injured worker from serving as an independent medical examiner in that case. The section allows any party to a workers' compensation action to request that an independent medical examiner be appointed. Independent medical examiners can determine if an employee is capable of returning to work. Benefits to the

employee will cease if the examiner determines a claimant is capable of returning to work and chooses not to do so. The medical examiners' fees shall be set by the court and paid by the employer (insurer). This section requires the court to explain the basis for any deviation in its findings from the impairment rating provided by an independent medical examiner. A review process to oversee the effectiveness of the use of independent medical examiners is also required.

**Section 28 (85 OS 22)** — This section amends current law and requires annual review (52 weeks) of temporary partial disability awards which increases the likelihood that the court will terminate benefits to those able to return to work.

Another provision is a companion to Section 17 (above) which authorizes alternatives to the AMA "Guides to the Evaluation of Permanent Impairment" and provides for legislative oversight of any system adopted.

Another provision increases benefits by increasing the method of calculating benefits from 75% of the state's average weekly wage (currently \$306.05) to 90% of the state's average weekly wage (\$368.10) beginning January 1, 1995, and to 100% of the state's average weekly wage beginning January 1, 1996 (\$409).

Another provision limits benefits for permanent partial disability to 100%. Currently it is possible under some circumstances for an injured worker to be more than 100% disabled.

A final provision increases the amount of lump sum death benefit for spouses from \$10,000 to \$20,000 and for children from \$2500 to \$5000 per child for up to two children beginning January 1, 1995.

**Section 29 (85 OS 24.3)** — New law allow-

ing employers to begin payments for temporary disability benefits immediately after an injury for up to four (4) weeks without admitting liability and requires reimbursement by the insurance carrier.

**Section 30 (85 OS 26)** — Amending current law to require insurance carriers to notify employers of the terms of any settlement of a claim and authorizes employers to object to such settlements.

**Section 31 (85 OS 30)** — Reduces attorney fees in some cases by limiting the number of weeks of benefits on which fees are computed to 400.

**Section 32 (85 OS 42)** — Reduces the rate of interest on benefits payable from the special indemnity fund from 18% to the same rate which applies to other cases, currently 6.99%.

**Section 33 (85 OS 43)** — A companion to Section 20 (above) which changes workers' compensation ombudsman to Workers' Compensation Counsellor.

**Section 34 (85 OS 45)** — Prohibits an injured employee from simultaneously receiving temporary disability benefits and unemployment benefits.

**Section 35 (85 OS 84)** — A companion to Section 30 (above) which requires insurance carriers to notify employers of settlement offers.

**Section 36 (85 OS 93)** — Increases fees of workers' compensation cases by \$25. The fees will be deposited in the workers' compensation administration fund and other funds including the Attorney General's Fraud Unit. This section also creates a \$75 fee to re-open a workers' compensation case.

**Section 37 (85 OS 112)** — An amendment



## Workers Comp (continued)

requiring the Advisory Council on workers' compensation to consult with the workers' compensation court regarding oversight of independent medical examiners. (The Advisory Council consists of three (3) each employer representatives, employee representatives, and attorney representatives.)

**Section 38 (85 OS 113)** — New law creating the Advisory Committee on Workers' Compensation to review all workers' compensation law and prepare a report due January 1, 1997, which analyzes any resulting changes relating to workplace safety, the use of independent medical examiners, managed health care plans, and fraud and abuse. Of the 15 members of the committee, five shall be state senators, five house members and five shall represent labor and business organizations.

**Section 39 (85 OS 131)** — Requires the State Insurance Fund to report the amount of insurance premium taxes it would have paid if it were subject to the tax.

**Section 40 (85 OS 134)** — Amends current law to modify the duty of the Commissioner of the State Insurance Fund and (1) requires creation of a procedure for appeal by employers of rating classifications, (2) requires actuarially sound rates, (3) requires the Insurance Fund to be self-funding, (4) requires an independent actuarial certification of past performance, (5) requires retention of excess premiums, and (6) prohibits shifting of losses except to re-insurers.

**Section 41 (85 OS 135)** — A statutory amendment requiring checks for benefits from the State Insurance Fund to contain a warning against fraudulently accepting benefits.

**Section 42 (85 OS 172)** — Requires all weekly payments for permanent partial disability to be paid before a claim for benefits against the special indemnity fund may be paid and provides the procedure to be used for determining the number of weeks which must elapse in the case of a lump sum permanent partial disability award or settlement.

**Section 43 (85 OS 182)** — New law creating a joint legislative study committee on the special indemnity fund which is to report to the legislature by January 1, 1996.

**Section 44 (85 OS 201)** — Expands the authority of the administrator of the workers' compensation court to review evaluations of ratings of impairment in addition to review of the quality and quantity of care. (Current law directs the administrator to adopt rules to establish a system of review of medical practices and to refer charges of abusive practices to the Physician Advisory Committee for review and recommendation. Abusers may be excluded from the program for up to five years.)

**Section 45 (85 OS 201.1)** — This section was requested by the current Physicians Advisory Committee and expands the membership to nine providers and outlines duties of the committee. The committee shall advise the court administrator on utilization review, abusive practices, overtreatment, permanent impairment evaluations, treatment protocols, and the use of or alternatives to the AMA's "Guides to the Evaluation of Permanent Impairment." In addition, the section requires the administrator of the workers' compensation court to establish treatment protocols and utilization controls for medical services by January 1, 1996.

The Physicians Advisory Committee shall consist of two MDs, two DOs, one podiatrist, one chiropractor, one family practitioner in a rural practice (either MD or DO), and two others that may be either MD or DO.

**Section 46 (85 OS 211)** — Modifies the method of obtaining subpoenas by the Attorney General's Workers' Compensation Fraud Unit and clarifies that objections to such subpoenas may be made to the District Court.

**Section 47 (21 OS 591)** — Attorneys may be committing a misdemeanor if they hire agents, commonly called runners, to solicit clients to use the attorney to file workers' compensation claims. Penalties include a \$2500 fine and a declaration that the contract with the client is unenforceable. These penalties are in addition to penalties which may be imposed by a bar association.

**Section 48 (21 OS 592)** — Medical care providers may commit a misdemeanor if they hire agents, commonly called runners, to solicit patients to use the medical care provider to provide services compensable under the Workers' Compensation Act. Penalties include a \$2500 fine and a declaration that the contract with the patient is unenforceable. These penalties are in addition to penalties that may be imposed by professional licensing organizations.

## IN MEMORIAM

### 1993

Edward David Greenberger, MD .....	August 6
Horace Harold Porter, MD .....	August 15
Clifford A. Traverse, MD .....	August 20
J. Wendall Mercer, MD .....	September 2
Emma Jean Anthis, MD .....	September 27
Russell D. Harris, MD .....	September 28
Walter Lee Honska, Jr., MD .....	October 9
Ethel Maurice Walker Heras, MD .....	October 25
James Burton Pitts, Jr., MD .....	October 29
John Daniel Capehart, MD .....	November 20
Kevin James Cammack, MD .....	December 4
William Best Thompson, MD .....	December 10
Henry Grady Ryan II, MD .....	December 17

### 1994

Fannie Lou Leney Hayward, MD .....	January 2
Kirk Thornton Mosley, MD .....	January 3
Richard Charles Wade, MD .....	January 6
Austin Walsh Webb Haddox, MD .....	January 13
Earl Mathiews Woodson, MD .....	February 20
Tom Lamar Johnson, MD .....	March 5
Orville Main Rippey, MD .....	March 11
Minor Elliott Gordon, MD .....	March 14
George Loren Norris, MD .....	March 27
Max A. Glaze, MD .....	April 29
Winfred Aaron Showman, MD .....	May 14
Mark Daniel Holcomb, MD .....	June 1
Carter William Mathews, MD .....	June 3
Frank Wilson Clark, MD .....	June 6
Harold Ray Sanders, MD .....	June 15
Robert Bruce Howard, MD .....	June 16
Richard Warren Loy, MD .....	July 7
John Hobson Veazey, MD .....	July 11
Wesley A. Whittlesey, MD .....	July 12
Laurence Sevier McAlister, MD .....	July 19
Jon Meyer Chenette, MD .....	August 4
Beryl Drew Henwood, MD .....	August 14
Jess Duval Herrmann, MD .....	August 16
Jose J. Guijarro, MD .....	November 11
Haven Winslow Mankin, MD .....	November 14
Dalton Blue McInnis, MD .....	November 26

**Section 49** — This section clarifies that certain provisions of this act are to have only prospective effect.

**Sections 50-52 and 54** — Sections appropriating \$227,988 to the Workers' Compensation Court to fund the staff for the Physician Advisory Committee, support for the Independent Medical Examiner system, support for the Workers' Compensation Counsellor Program, and to pay expenses of cases which are assigned outside the court.

**Section 53** — Requires the court administrator to set qualifications for new court employees.

**Section 55** — Sets fiscal limitations on appropriations.

**Section 56** — Declares an emergency.



## Report: The Pill's health benefits appear to far outweigh its risks

The birth control pill can prevent disease and prolong life, but most American women are not aware of those positive aspects, says a researcher who blames adverse reports in the media for misleading the public on the health effects of oral contraceptives.

David Grimes, MD, professor and vice-chair, Department of Obstetrics/Gynecology and Reproductive Sciences, University of California at San Francisco, spoke to the American Medical Association's 13th Annual Science Reporters Conference in Seattle on November 7.

Grimes says women who take the pill decrease their chances of getting ovarian cancer. He says the risk decreases the longer the pill is used and the protection lasts at least 15 years after use has ended. It's estimated that women who take the pill for a decade or longer cut by 80% their chance of being affected with the most deadly gynecologic cancer in the United States.

Grimes points to comedian Gilda Radner's death from ovarian cancer as an event that focused public attention on the disease. But Radner's story ended up promoting ovarian cancer screen-

ing, which Grimes says is very expensive and has inconclusive results. "Here we know we have a safe, effective method that a doctor can prescribe that will prevent cancer," he says of oral contraceptives. "Let's focus on prevention."

Oral contraceptives also safeguard women against endometrial cancer, the most common gynecologic cancer in the United States, Grimes says. The pill reduces the risk for endometrial cancer by as much as 50%, with the protection strongest in women considered at high risk, including those who have not given birth. As with ovarian cancer, the pill protects women against endometrial cancer at least 15 years after use, Grimes says.

The pill also cuts in half the risk of pelvic inflammatory disease, the most common serious infection to afflict women, with about one million American women affected each year, Grimes says. Pelvic inflammatory disease, or infection of the fallopian tubes, can cause infertility, ectopic pregnancy, and chronic pelvic pain, with billions of dollars spent each year treating the disease, he says.

Oral contraceptives reduce by about

90% the danger of ectopic, or tubal, pregnancy, Grimes says. Ectopic pregnancy is the leading cause of maternal mortality in early pregnancy, and the numbers and rates have tripled in recent years to reach epidemic proportions in the U.S., Grimes says.

Oral contraceptives increase the quality of life of women by reducing their menstrual flows and, as a result, their chances of iron deficiency anemia. Menstrual bleeding is an "important source of iron loss in women," Grimes explains. The progestin in birth control pills also substantially reduces the risk of benign breast disease, a source of "great emotional anguish," Grimes says. There is also evidence to suggest that oral contraceptives may also protect against toxic shock syndrome, rheumatoid arthritis, and osteoporosis, Grimes adds.

While the pill prevents disease and even death, those facts are "entirely contrary to the view held by most American women," Grimes says. Gallup polls conducted in 1985 and early this year show there is "gross misinformation and gross confusion about oral contraceptives," with a majority of American women holding negative views of the pill, he says.

The number of news reports on the adverse effects of the pill has left women with "a lopsided perspective on pill safety." Physicians should not push women to use the pill, Grimes says, but should educate their patients on "one of the best kept secrets in America." □

### Rural health care gets a boost at OUHSC

A \$2 million grant to improve health-care delivery in rural Oklahoma has been awarded to the University of Oklahoma Health Sciences Center in Oklahoma.

The Oklahoma Rural Managed Care Demonstration Center, established in the Center for Health Policy Research and Development in the OU College of Public Health will provide technical assistance to help counties establish health care networks, said Dr. Edward Brandt, professor of health administration and policy and principal investigator. Specifically, the center will work with the First HealthWest network in Lawton and the Cherokee Nation.

The five-year grant, funded by the Agency for Health Care Policy and Research, an arm of the Public Health Service, also will provide incentives for private health care companies to develop projects in rural areas, recruit doctors and monitor health-plan care in rural Oklahoma.

Dr. Valerie Williams, associate dean in the OU College of Medicine, is co-investigator. Other agencies and universities involved in the project are Oklahoma State University and the Oklahoma State Department of Health. Nationally, four other universities—the University of Arizona, University of southern Maine, West Virginia University, and University of Nebraska Medical Center—are participating in the project in their respective states. □

### LETTERS

#### Runaway licensure board

*To the Editor:* In 1988 I was placed on probation for one year for allegedly writing prescriptions for too many controlled substances by the State Board of Medical Licensure and Supervision.

At the same time, four of the six doctors in our clinic also had to appear before the board on the same

charge, and two of us were placed on probation. One was told that if he had written one or two more prescriptions, he also would have been placed on probation. At the time that I was accused of writing too many prescriptions for controlled substances, I was the house physician for the Western Oaks Health Care Center, which is a 225-bed nursing home and is the largest in the state of Oklahoma. Many of the people in the nursing home are on mild tranquilizers, pain medicines, or sleeping medications. In my opinion, these were all necessary. In addition, I maintain a fairly large practice and was seeing over 600 patients per month.

In considering the charge, the state board did not ask how large was my practice, what type of practice it was, or any of the particulars concerning my practice. It seemed that the only thing that counted was a so called unit dose, where they simply added up the total unit doses of controlled medications over an arbitrary period of time and came up with a total figure. Xanax 0.25 mg. counted the same as Demerol 100 mg. My total unit dose was high and it was over the norm, but they refused to disclose their norm and denied that they even had a norm. I felt that I was dealt with unfairly and instead of having placed me on probation, I would have responded the same if the secretary had simply called me and told me that they were of the opinion that I was writing too many prescriptions. By refusing to disclose what they consider too many, they are acting like a highway patrolman who stops you for speeding, but will not tell you what the speed limit is.

In 40 years of medical practice, I have not had a blemish on my record until this occurred and now every year when I make application to any hospital board or to any PPO insurance company, I have to send an explanation of having been placed on probation.

I have changed my prescribing habits. I write all of my prescriptions in duplicate and each month we count

each dose of each class of controlled substances and I keep these records. I do not authorize any refills without the pharmacist calling us and getting permission, so that I can keep track of them.

I also resigned as the house physician for the nursing home, as this was adding to my total.

I feel that I have been hurt personally, that my reputation has been injured, and my practice of medicine has been damaged by what I consider unfairness of this board.

I believe they have entirely too much power and that they are punitive in their actions. I do believe that the Oklahoma State Medical Association should be more active in trying to control this runaway board.

Thank you for your recent editorial ["The Forty-Three Commandments," Oct. 1994] concerning the State Board of Medical Licensure and Supervision.

—Leon N. Gilbert, MD  
Bethany

## **Now, about that survey...**

*To the Editor:* Guess who has benevolently offered to fund the deunification survey approved by the House of Delegates last spring? The AMA! They have offered to spend around \$5000 of their (your, our) money to devise and interpret the survey/results. Now I wonder what other OSMA activities the AMA would be willing to fund. Their willingness to fund this particular project is perhaps noble, perhaps not. Now the OSMA Board of Directors has accepted this favor from the AMA. I wonder how Wisconsin or California AMA members would react to AMA's use of their dues? Is the AMA accountable to the membership to explain this type of activity? I would rather see the AMA donate the \$5000 to the "Elect Dr. Lambird to the Vice-Speaker Position Committee." Of course, there are lots of expenses the OSMA has that the AMA could help out on... that is, if the AMA membership in the rest of the country doesn't mind. Isn't this the kind of activity

that led to the most recent election results? Is the AMA increasingly out of touch and unaccountable to its membership? In Oklahoma, physicians must give up their health insurance if they decide to opt out of the AMA. Is the AMA so worthy that membership coercion is justified? Or is membership coercion necessary because the AMA is weak/unprincipled?

PROklahoma is seeking physician investors for their very worthy physician-owned/controlled HMO. The bigger the response, the better. Catch is, one has to be a member of the OSMA in order to participate. How many physicians in the state of Oklahoma have dropped their OSMA membership because of the affiliation with the AMA? How many physicians have not ever joined the OSMA because of the affiliation with the AMA? Is OSMA willing to exclude these physicians from the HMO for the sake of the AMA? This is a good example of not having your cake and eating it, too. OSMA requires AMA participation, yet may wonder why a bigger tent cannot be erected over the state's physicians resulting in a better OSMA and a stronger HMO. Can we be united as a physician group with the AMA hanging around our neck? Are these questions that will be included in the AMA-authored survey?

For the first time, I disagree with your editorial ["Tricycle or Bicycle?" Sept. '94] suggesting that the fuss over deunification should end and we get on to more important matters. There was never a more important time to discuss this and act. Removing the AMA shackles will strengthen our state organization by increasing membership in the OSMA and its HMO. Deunification is not about demolishing the AMA. It is about freedom of choice to belong to whatever organization you wish. Deunification is about strengthening OSMA. Our biggest challenges will be at the state level. The AMA failed miserably at the national level. First, an employer mandate (they like mandates), then the fiasco with the AARP, AFL-CIO. All this in the name of coop-



## Letters (continued)

eration, compromise. How did the American people respond? Total rejection of government-managed health care... no cooperation, no compromise. The American people opted for choice... so should we.

—G. Keith Smith, MD  
Oklahoma City

## DEATHS

### Jose J. Guijarro, MD 1924 - 1994

Marlow, Okla., general practitioner Jose J. Guijarro, MD, died November 11, 1994. Dr. Guijarro was born and raised in Havana, Cuba, earning his medical degree at Havana Medical School in 1954. He completed an internship in Athens, Ga., and a residency in anesthesiology in Denver. In 1970, Dr. Guijarro moved his practice in Marlow.

### Haven Winslow Mankin, MD 1922 - 1994

OSMA Life Member Haven W. Mankin, MD, died November 14, 1994, in Oklahoma City. A native of Washington, D.C., he grew up in Chevy Chase, Md., and earned his MD at George Washington University School of Medicine in 1947. His residency training in internal medicine and radiology was completed at Johns Hopkins Hospital and The Mayo Clinic. He established a radiology practice in Oklahoma City in 1949, which was interrupted only by two years of active duty in the U.S. Army during the Korean conflict.

### Dalton Blue McInnis, MD 1920 - 1994

Dalton B. McInnis, MD, an OSMA Life Member, died November 26, 1994, in Oklahoma. He was born in West End, N.C., and received a medical degree from the University of Oklahoma School of Medicine in 1945. After completing an internship at the U.S. Naval Hospital in St. Albans, N.Y., he returned to Oklahoma and opened a general practice in Okeene in 1947. Dr. McInnis served on active duty with the U.S. Navy overseas during the Korean conflict. □

## CLASSIFIEDS

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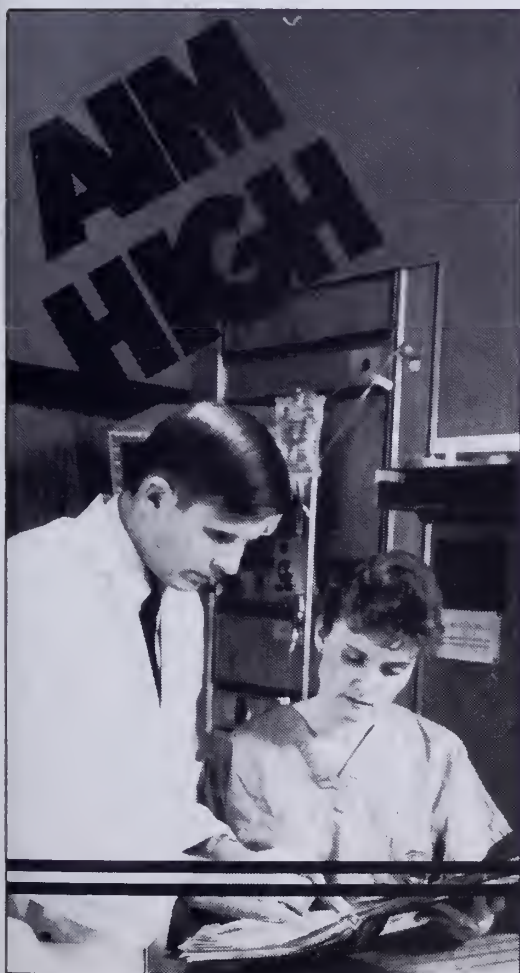
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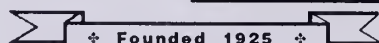
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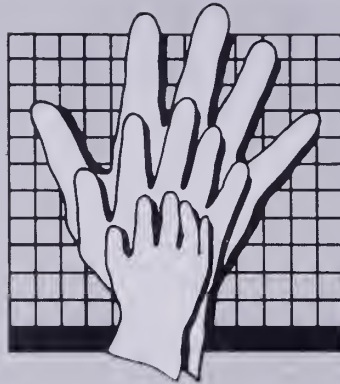
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**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the CNS and produces a complex pattern of responses in lower doses than required to produce peripheral alpha-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.<sup>1,2</sup> Also dizziness, headache, skin flushing reported when used orally.<sup>1,3</sup>

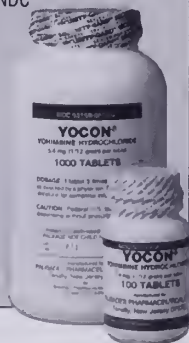
**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.<sup>1,3,4</sup> 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

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1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
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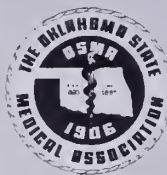
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## **Let's Make a Difference! Oklahoma State Health Promotions**

Violence is a monumental problem that pervades every aspect of today's society. Simply turn on your television or read any newspaper and one is simply overwhelmed by the degree and number of violent acts committed daily in this country alone.

The magnitude of the problem of dealing with violence in the country and world today might tempt us to despair or at least feel immobilized. And it is easy to question our ability to make a difference.

This year the AMA Alliance has decided that its "Campaign Against Family Violence" is making a difference and has adopted this program as the focus for health promotions. The campaign is divided into four public health issues and includes: (1) One Voice to Stop Violence; (2) One Voice for Health Children; (3) One Voice for Healthy Teenagers; and (4) One Voice for Effective Parenting.

In conjunction with these health areas, this year the AMA Alliance has developed new materials that focus on the issues. The first is a "Conflict Resolutions Coloring Book" that targets children, grades kindergarten through third. The book presents basic conflicts and ideas for dealing with these conflicts. Also available are two new brochures that address teen violence and parenting skills.

These are but a few examples of the many brochures, videos, and programs addressing the various aspects of violence in today's society. They are available to all AMA and Alliance members, and as this year's health promotions chair, I strongly encourage you to do so.

Mobilize your friends, your association, and your community so that you can truly help to make a difference. For further information, contact Cheryl Baker, 405-341-0338.

□



■ **Influenza vaccinations can reduce the incidence of flu** in the elderly by 50%, according to an article in the January 7 *Journal of the American Medical Association*. Th.M.E. Goovaert et al conducted a study to determine the efficacy of influenza vaccination in elderly people. The researchers reported that vaccination in individuals aged 60 years and older achieved up to a 50% reduction in influenza. They also reported that "with the exception of participants aged 70 years and older, vaccinated participants had a clearly lower incidence of influenza or influenzalike illness than did nonvaccinated participants. The study was a randomized double-blind placebo-controlled trial which included fifteen family practices in the Netherlands, during influenza season 1991-1992. The 1,838 participants were aged 60 years or older, were not known as belonging to the high-risk groups with heart or lung disease or diabetes mellitus, in which vaccination was previously recommended.

■ **Make your reservations early for the National Rural Health Association's 1995 Annual National Conference.** The conference will be held May 17-20, 1995, at the Hyatt Regency Atlanta in Atlanta, Ga. Reservations received after April 17, 1995, will be accepted on a space available basis only. Room rates are: Single, \$115; Double, \$135. Call the Hyatt Regency Atlanta at (404) 577-1234 to reserve your room.

■ **This month is the scheduled opening of Tulsa's new Day Care Center for the Homeless,** where medical students and residents from the University of Oklahoma Health Sciences Center-Tulsa (OUHSC-T) volunteer on-site physician services. The new 23,000 sq. ft. facility is a welcome improvement over the previous 4,000 sq. ft. building. The new shelter will expand basic health services and provide permanent offices for government and social services need by the homeless.

■ **Howard A. Shaw, MD, Tulsa, has been elected board member to the Tulsa County Medical Society.** He also has been named chair for District VII of the American College of Obstetricians and Gynecologists (ACOG) Junior Fellows. Chief Resident Christine F. Blake, MD, was elected secretary/treasurer for District VII ACOG and chair of the resident executive council at the University of Oklahoma College of Medicine-Tulsa.

■ **The AMA has released guidelines that will help physicians use new assistive technology—devices and services that will improve quality of life for the nearly 50 million Americans with disabilities.** *Guidelines for the Use of Assistive Technology: Evaluation, Referral, Prescription* will serve as a quick reference for primary care physicians who are responsible for prescribing assistive devices and services for their patients with disabilities. Surveys of rehabilitation awareness indicate two-thirds of primary care physicians want more information and instruction about the growing field of assistive technology and services. The *Guidelines* also will

be used as part of a larger curriculum for 10 training sessions held in five cities throughout the U.S. in 1995. The workshops will cover: role of the physicians and the physician-patient relationship; patient assessment—screening patients for functional impairment; individual roles, team concept, and the rehabilitation process; matching the patient to the device; prescription and certification of medical necessity; and state assistive technology and other resources.

The *Guidelines* are available for \$5.00 each or 25 copies for \$100 from the Department of Geriatric Health, AMA, 515 N. State Street, Chicago, IL 60610. For more information on the workshops, call 312-464-5095.

■ **The South Central Safety Institute at the University of Central Oklahoma in Edmond offers the state's only driver education program for people with disabilities.** Clients for the program must be medically cleared and meet minimum requirements in terms of physical ability. Evaluations determine their needs for adaptive equipment, as well as driving simulation experiences. For more information about driver training for people with disabilities, call 405-341-2980, extension 2856 or 2855. For information about vocational rehabilitation and related programs, contact the Oklahoma Department of Rehabilitation Services' state office at 405-424-4311, extension 2919. Seventy-nine other offices located across the state are listed in the blue pages of local telephone books.

■ **Volunteers are needed to serve as Doctors of the Day** at the State Capitol during February, April, and May. A Nurse of the Day will assist the doctor on duty in seeing up to 15 patients a day. The Capitol's medical station is open from 9 AM to approximately 4 PM. The Doctor of the Day program reinforces the OSMA's presence at the capitol and is a way for participating physicians to observe the legislative process. Each doctor will be introduced in both the House and Senate chambers by his or her respective legislator. To volunteer for the program, return the form published in the December *OSMA News*, or call Bobbie Brown at OSMA headquarters, 405-843-9571 or 1-800-522-9452.

■ **Survival Kit for Seniors: A Directory of Vital Information for Older People of Central Oklahoma** is expected to be available by the end of the month. Published by Senior Information Services, Inc., an Areawide Aging Agency project, the handbook is for senior adults and their families. It is designed to contribute to the health and well-being of older people in central Oklahoma by listing agencies that provide services. An effort has been made to include those services most directly related to the needs of older persons. There is no charge for the handbook, but contributions to help defray printing and mailing costs would be appreciated. For additional information, contact Senior Information Services, Inc., 3200 N.W. 48th Street, Suite 202, Oklahoma City, OK 73112, 405-943-4344 (voice or TDD).



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## On Fraud Prevention

Back in the "good ole days" when the patient could trade a ham for a hemorrhoidectomy, medical economics had an elegant simplicity. Cash was scarce, and the direct deal between the patient and the physician made impossible the health care fraud of today. In transactions where patient satisfaction controls the payoff, medical quality problems are rare and evanescent.

But in the existent milieu, where the cash flow is controlled by the third party payers, inappropriate and futile treatments are said to be common. Upcoding, double billing, phantom billing, and other overtly fraudulent "errors" seem to be increasing. However, human nature is such that these practices can exist only in a system where the patient has been excluded from a meaningful role in the payment mechanism. Patients are the world's most effective money watchdogs, but now most agency and many insurance contracts carefully exclude patients from any realistic monetary responsibility.

The General Accounting Office has publicly postulated that multiple billions of dollars are annually lost on fraudulent billings in the United States. The Administration has announced a "crackdown" on health care fraud, and increased surveillance is now underway. The medical profession can now reasonably expect a major increase in frequency of fraud allegations against physicians, with all the trials and tribulations thereunto appertaining.

When we consider the defense of the individual physician against an allegation of health care fraud, it would be nugatory to say that the system itself is so complex and contradictory that it intrinsically generates a blizzard of errors. While that hypothesis is very close to the truth, the government has

successfully pre-empted the power to downcode while prohibiting upcoding, and "to bundle" while prohibiting "unbundling." Many insurance contracts accomplish a similar purpose with exclusionary clauses that are unknown to the patient.

Thus our society has arrived at a diseordant state where government downcoding is defined as a legitimate conservation of federal money, physician upcoding is prosecutable health care fraud, and the patient's evaluation of the worth of the service is deliberately excluded. Some of this tension is rooted in regional and traditional differences in fee schedules and billing practices, but the more crucial difficulty is that—with the patient shut out—the government tries to minimize physicians' cash flow while the physician tries to maximize the cash flow.

Every population of humans contains a hapless minority that requires assistance from their friends and neighbors (that is, the government). Some government or insurance subsidy for medical care will be needed in the United States for a long time, but the patients' own sense of responsibility would be restored and maintained if the system were altered so that the patient personally had to use the subsidy to buy the medical service. If all subsidy payments to physicians or other vendors were routed through the hands of the patient, responsibility would be increased, cost efficiency would improve, and health care fraud would largely disappear.

Fundamental reform of this system is needed. The self-interest of individual patients as watchdogs offers the best hope of restoring some fiscal sanity to the system.

*Ray V. McIntyre, M.D.*

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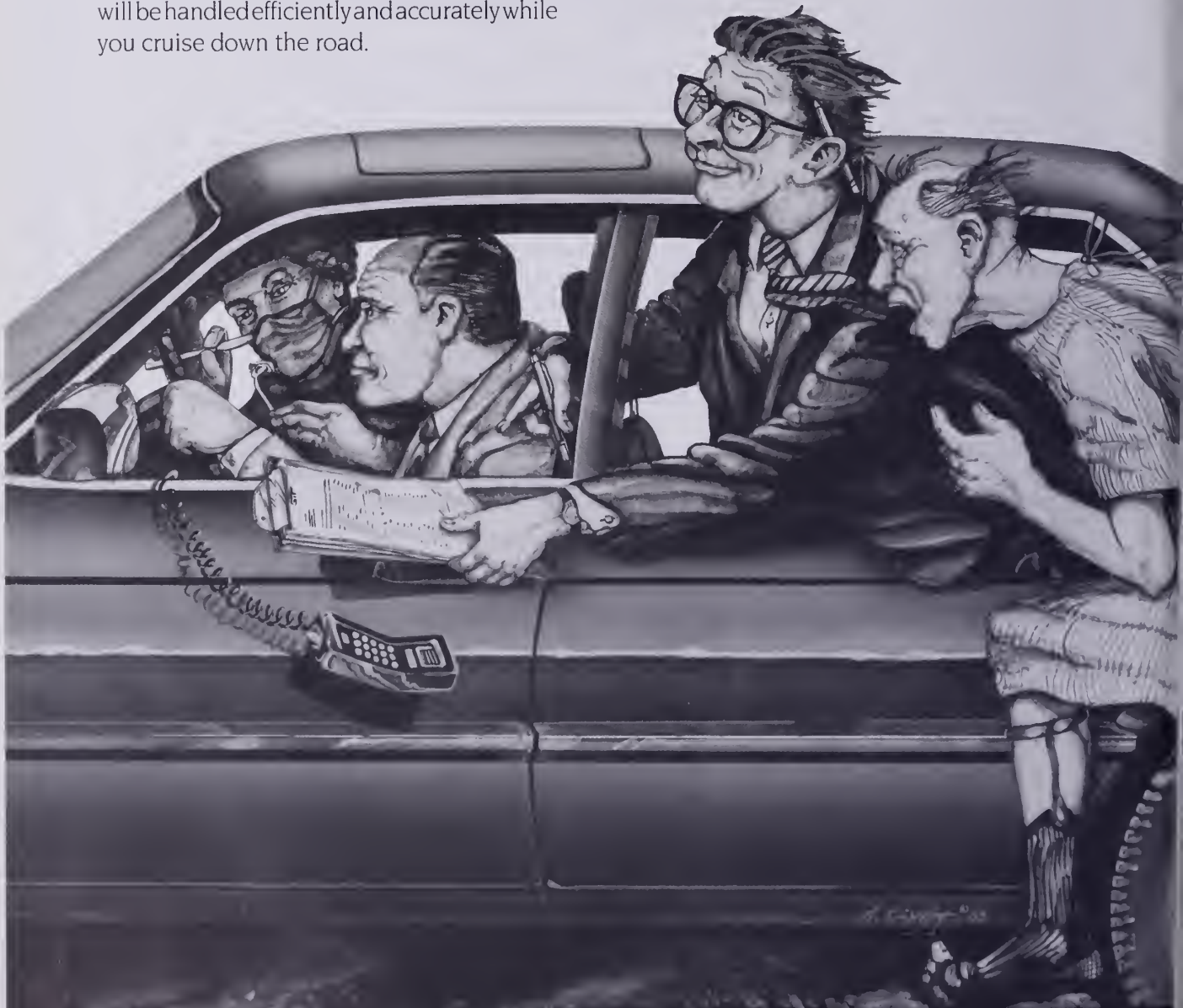
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## Carpe Diem, Doctor

*Carpe diem.* If you are a fan of Robin Williams, or a student of Latin, you know the meaning of these words ("seize the day"). Let me tell you a story about a man named Joseph, who literally lived his life by this maxim.

Joseph, as a young man, had a dream about his life. He shared this dream with his brothers, and they became angry with him because, in his dream, he would some day become their king or ruler. Joseph's brethren plotted to kill him, but instead sold him to slave traders who took him to Egypt. There they sold him to a captain in the army. Joseph soon impressed the captain with his abilities and was put in charge of the entire household.



As luck would have it, the captain's wife tried to seduce the handsome young man. Joseph refused and the captain's wife, being a scorned woman, had Joseph thrown into prison.

In prison, Joseph again showed his outstanding qualities and soon was placed in charge of all the prisoners. He got to know a couple of fellow inmates and helped them interpret their dreams. When these two individuals got out of prison, they made their way to Pharaoh and were helping him with dream interpretation when they remembered Joseph. Pharaoh had Joseph released from prison and placed on his staff.

While under Pharaoh's command, Joseph once again "seized the day." He rose quickly through the ranks. Soon he was second in command of all Egypt, answering only to Pharaoh himself.

At about this time a famine was occurring in Joseph's homeland. Joseph's family, in search of food, came into Egypt and of course were arrested by Pharaoh's army. Joseph saw his family and took them to his home and fed and cared for them, fulfilling his dream.

I'm not about to tell you that I've had a dream about how we can seize the day. But I will tell you that we must seize the day, and that day is now. The mechanism by which we can take control of the situation is PROklahoma.

I refer you to the December 21, 1994, *Wall Street Journal* article entitled "HMOs Pile Up Billions in Cash." The decision-making process and the mechanisms of reimbursement in

the health care delivery system are going to change rapidly and drastically. Some of you in OKC, Tulsa, and other cities have seen substantial change and already have made decisions about your future. But I say to you, be very careful of your bedfellows, and I predict that many of you will live to regret those alliances or arrangements that were made to "protect your market share."

Who owns your new ventures? Who stands to reap the huge profits referred to in the *Wall Street Journal* article? Who will lose when things get tight and it is time to trim the budget? Oh, I'm sure you have representation on the boards, but when was the last time your administrator took a salary cut or your hospital reduced its rates? Look in the mirror and see if you have the guts to answer these questions while looking yourself in the face. You know the answers as well as I do. The only way we are going to stay in control is to have a managed care organization that only you and I own, where you and I make all the decisions regarding patient care, quality assurance, utilization issues, premium rates, and reimbursement rates. There is no other way! All other entities either currently in the market or in the formative process have some element of outside control. When you give up control, you give up your authority and your autonomy; you become merely a cog in the great wheel of health care. The doctors in those HMOs referred to in the *Wall Street Journal* are merely cogs. They are working to deliver care while the money-driven entrepreneurs are stuffing their pockets with cash! We can take those profits and turn them into lower premium rates and better reimbursement rates. That will serve well all of our patients and all of us who are going to participate in PROklahoma.

You don't have to be a great thinker to seize the day. You merely have to be willing to take control of your destiny. Like Joseph, you must seize the day for the future of health care in Oklahoma. Think about it. Then join hands with your fellow physicians to make this a better place for all Oklahomans.

Good day.

P.S. Watch your mail for a copy of the *Wall Street Journal* article cited above.



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## A Large Splenic Cyst in a Middle-Aged Female Patient: An Unusual Case Report and Review

Hamilton Shay, MD; Scott Calhoon, MD

A large splenic cyst is revealed in the patient during a general work-up for possible cholecystitis and cholelithiasis. The size of the splenic cyst measured by ultrasonogram is  $84 \times 76 \times 77$  mm. The patient has no symptoms from her splenic cyst, and has had a laparoscopic cholecystectomy for diseased gall bladder. There are no plans for further intervention for her splenic cyst as the patient has no desire for therapy despite a high risk of rupture of the cyst. The majority of splenic cysts are benign in nature, both pathologically and clinically. For all splenic cysts, surgical intervention is advantageous as the risk of splenic rupture is very high, even from minor abdominal injury.

Cystic lesions of the spleen may be either parasitic or non-parasitic cysts.<sup>1</sup> Parasitic cysts are not common because they are due almost exclusively to echinococcal disease, which is rare in the United States. Non-parasitic cysts, encountered much more frequently, may be primary (true cysts) or secondary (pseudocysts). Histologically, the true cyst has an epithelial lining, while pseudocyst does not. The latter probably results from liquefaction of old hematomas or areas of infarction and inflammation. A pseudocyst has a dense fibrous tissue wall, which is often calcified.

### Case Report

The present case is a forty-nine-year-old white female. She sought medical attention because of

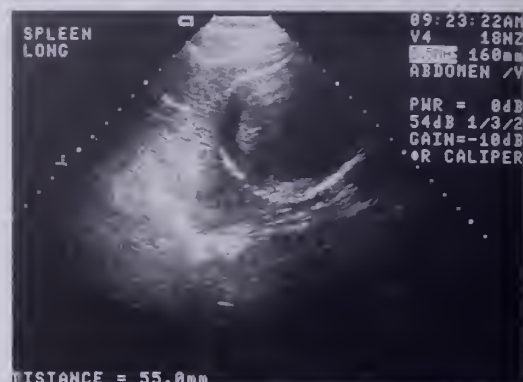
nausea and vomiting after eating, especially after having greasy food. The content of the vomiting is described as food residual, often stained with bile. She had no history of blood loss through the gastrointestinal tract. Her stool was normal color, with regular frequency. She has been symptomatic for a few months prior to the clinical evaluation and worsening. There is no diagnosed medical illness in her past except occasional stomach aches. She also denies any history of parasitic disease and injury. No current medications are recorded by the patient and she has no known drug allergy. Her family history is not remarkable. For her social history, the patient denies using tobacco and alcohol. She has no experience of travel to echinococcal disease-endemic areas such as South America, Australia, or Greece.

Physical examination of this patient was not remarkable except for mild to moderate tenderness to palpation at the right upper quadrant of the abdomen. There was no palpable organomegaly. Bowel sound was present. Review of other systems was not contributory. Laboratory data included (1) hematology, CBC dated April 26, 1994: WBC  $10.9 \times 10^3$ ; neut.  $7.6 \times 10^3$ ; lymph  $2.6 \times 10^3$ ; mono  $0.7 \times 10^3$ ; eos 0; baso  $0.1 \times 10^3$ ; RBC  $5.43 \times 10^6$ ; HGB 16.0 g/dL; HCT 46.1%; MCV 85.0 fL; MCH 29.5 pg; MCHC 34.7 g/dL; diff neut % 69.7; lymph % 23.6; mono % 6.2; eos % 0.0; baso % 0.5. (2) UA, dated April 27, 1994: reported color: yellow; glucose, bilirubin, and red blood cell negative; pH 6.5; S.G.: 1.015; urobilinogen 1.0; nitrite, leukocytes, bacteria, renal epithelium, casts, and crystals were all neg-

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Figures A and B.



During several follow-up contacts, this patient has declined further medical attention regarding her splenic cyst.

ative. (3) chemistry 20, dated April 26, 1994: calcium 11.1 mg/dL; glucose 129 mg/dL; uric acid 6.9 mg/dL; total protein 8.9 g/dL; total bili 1.1 mg/dL; LDH 127 IU/L; CK 1 IU/L; NA 141 mEq/L; chloride 94 mEq/L; anion gap 22; i. phos 2.5 mg/dL; BUN 14 mg/dL; chol. 274 mg/dL; alb. 4.8 g/dL; alk. Phos 123 IU/L; AST/SGOT 31 IU/L; creat. 0.7 mg/dL; K+ 3.9 mEq/L; CO<sub>2</sub> 25 mEq/L; BUN/creat. ratio 19. (4) pancreatic enzymes: amylase 83 U/L; lipase 39 U/L (5) EKG: sinus rhythm, rate 74; atrial premature complex; vertical axis, unusual for age; right atrial enlargement; inferior Q-wave noted; nonspecific inferior T-wave abnormalities; abnormal EKG and ischemia cannot be excluded.

An ultrasound of the upper abdomen on April 1, 1994, showed that the gallbladder contained numerous multiple shadowing calculi, the largest measuring 5.1 mm in diameter. Sludge was also noted. The gallbladder wall and common bile duct were within normal limits. Liver was of normal echogenity and size. The head, body, and tail of the pancreas were unremarkable. Of incidental note, a cystic mass was seen arising from the spleen with internal echo present within the cyst. The cyst measured 84 × 76 × 77 mm. This cystic mass was grossly unchanged in size when compared with ultrasound report from Moore Community Hospital in 1991. The general impressions of the ultrasound study were: (1) cholelithiasis with dependent sludge visualized; (2) cystic mass seen arising from the spleen (Figs. A-D).

The clinical diagnosis for this patient was (1) cholelithiasis with cholecystitis and (2) splenic cyst with unknown etiology.

The recommended treatment for this patient's gallbladder disease was surgical removal of her gallbladder, laparoscopic cholecystectomy with cholangiogram. Postoperative pathology study confirmed the preoperative diagnosis. The splenic cyst was visualized during the operation, as the patient requested, and was left without medical

intervention. The patient has recovered well after her cholecystectomy. She was discharged to home with no complication in satisfactory condition on postoperation day one.

During several follow-up contacts, this patient has declined further medical attention regarding her splenic cyst. However, we will continue to pursue a precise diagnosis and to recommend effective treatment for this patient with a splenic cyst. We would like to share this unusual case with our colleagues.

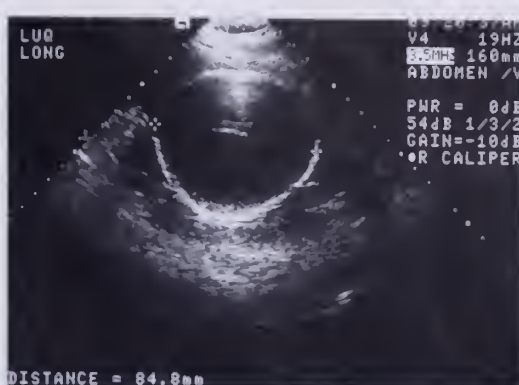
## Comments

Besides the conventional classification of the splenic cyst described earlier,<sup>2</sup> the size measurements become the key point in determining the therapeutic approach of the splenic cyst. Commonly, a cyst measuring greater than 5 cm is called a large cyst; less than 5 cm is a small cyst. The splenic cyst reported here obviously is a large cyst.

In the diagnosis of the splenic cyst, a report from Huffman<sup>3</sup> suggests that ultrasound, the scintiscan with technetium, and the CT scan may pinpoint the location of the splenic cyst and make the diagnosis.

Physical examination may reveal no abnormality. In this case, ultrasound is used for initial diagnosis and measured the size of the splenic cyst as well.

Ehlich<sup>4</sup> states that cyst of the spleen is rare but usually benign. In this case, there is no pathological study of the splenic cyst. However, the splenic cyst appears to be benign. On reviewing two ultrasonograms in 1991 and 1994, the cyst remains almost the same size and the patient remains asymptomatic as well. A study from Walz<sup>5</sup> states that splenic cysts are usually benign, despite the presence of tumor markers (CEA and/or CA 19-9) in the cyst wall, and do not require removal. The only indication for surgical intervention are complications (e.g., rupture), symptomatic cyst, or asymptomatic cyst with an increased risk of rupture (diameter greater than 5 cm). In



Figures C and D.

his opinion, a surgical intervention is suggested on this patient because of the large size of the splenic cyst.

Concerning the postoperative immune status, Pitre,<sup>6</sup> based on his study of nine cases of non-parasitic splenic cyst, recommended that in order to prevent the overwhelming post-splenectomy infection syndrome, conservative surgical treatment was mandatory. Williams<sup>7</sup> advised that whenever possible, the cyst could be eradicated without resort to total splenectomy.

On the problem of postoperative recurrence, Pappis<sup>8</sup> reported three pediatric patients. Three children had cyst resection on spleen. Four years later one boy developed a recurrent splenic cyst and the recurrence was attributed to the coexistence of an invisible tiny cyst that had remained in the splenic tissue after the dissection of the major cyst during the previous operation.

Subtotal splenectomy is an acceptable alternative procedure for splenic cyst. According to

current literature, the subtotal splenectomy of the cyst will be the most appropriate procedure for the patient presented in this case.

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The data for women over 65, who are at greatest risk of breast cancer, are shocking in that only 38.5% of these women have had a mammogram in the past year...

## Breast Cancer in Oklahoma UNNECESSARY DEATHS

Edward N. Brandt, Jr., MD, PhD; Robert W. Broyles, PhD; Neil E. Hann, MPH; Brett A. Coleman, BS

Deaths of Oklahoma women can be prevented by early detection using mammography and clinical breast examinations. This study summarizes the responses from the Oklahoma Behavioral Risk Factor Study, and the results indicate that Oklahoma women, especially low income and less well educated women, are not receiving these screening tests in adequate numbers. Physicians have a major responsibility to correct this by recommending such tests and encouraging women to take advantage of them.

**B**reast cancer is a leading cause of cancer deaths in women, second only to lung cancer. Deaths from this disease can be prevented by early detection by mammography and clinical breast examinations. Indeed, it has been estimated that at least 50% of deaths from breast cancer could be prevented by early detection. In addition, it is much less expensive to treat cancer at an early stage. This paper summarizes the status of such screening examinations in Oklahoma.

### Data Sources

The mortality data are from death certificates maintained by the Oklahoma State Department of Health. Other data come from the *Oklahoma Behavioral Risk Factor Survey* for the years 1988 through 1992. This survey is conducted by telephone for a random sample of Oklahomans. The data are the responses from those contacted, and no attempt was made to verify their answers.

*Healthy People 2000* has established a set of numerical objectives organized in 22 categories for improving the health of Americans to be achieved by the year 2000. These objectives were defined by a large group of physicians and public health personnel led by the U.S. Public Health Service. The objectives provide standards by which progress can be measured and, as such, represent a major contribution to our efforts to prevent disease.

Similar to previous studies, we compare the use of mammography examinations and clinical breast examinations with the goals established in *Healthy People 2000* from two perspectives. The first is based on pooled data that reflect the responses of all women during the study period to the survey and compares the behavior of Oklahomans to established goals. The second perspective focuses on movements toward or away from the goals of *Healthy People 2000*.

### Results

Table 1 summarizes the number of deaths from breast cancer during the period 1988 through 1992. These results indicate an average of over 500 deaths annually from breast cancer. Of the 2,544 deaths from breast cancer, 130 (5.1%) were in women under 40 years of age and 412 (16.2%) in women under 50.

Presented in Table 2 are the percentages of women 40 years old or older who have ever had a mammogram. The table also presents similar results for women who are poor (family income of less than \$10,000 per year) and women with less than a high school education, as well as black

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**Table 1. Breast Cancer Deaths in Women**

Year	Total	Age					
		<40	40-49	50-59	60-69	70-79	80 and over
1988	502	34	30	88	135	128	87
1989	516	20	71	82	137	135	71
1990	518	27	65	85	136	114	91
1991	513	21	59	106	108	127	92
1992	495	28	57	97	116	113	84
Total %	100.0	5.1	11.1	18.0	24.8	24.3	16.7

**Table 2. Percentage of Women 40 and Over in Oklahoma Who Have Ever Received a Mammogram, 1988-1992**

Category		Year					Five Year Percent	Goal
		1988	1989	1990	1991	1992		
40 or older	%	53.5	59.4	61.2	66.8	70.3	63.5	80
	No.	144	246	273	334	377	1,374	or more
Poor (Family Income less than \$10,000)	%	45.7	44.2	46.2	48.7	49.5	46.9	80
	No.	37	46	49	58	46	236	or more
Education (less than high school)	%	46.6	47.3	47.9	57.4	59.9	52.7	80
	No.	34	52	46	66	79	277	or more
Blocks	%	20.0	65.2	45.2	59.3	80.0	56.8	80
	No.	2	15	14	16	16	63	or more
American Indian	%	28.6	75.0	43.8	60.0	60.9	55.4	80
	No.	2	6	7	12	14	41	or more

and Indian women. Unfortunately, the data for the latter two are based on small sample sizes, thereby reducing the reliability of the percentages. These data emphasize that the overall percentage of women over 40 who have ever had a mammogram is 63.5%, a rate less than the *Healthy People 2000* goal of 80%. However, the overall trend during the five-year period rose, indicating the potential for achieving the established goal by the year 2000. The situation is less positive for poor women and those with less than a high school education. In these cases, the percentages are around 50%. Although the percentage for the less well educated women is increasing, that of the poor is stable.

Table 3 includes similar data for women over

50. Again, the trend is upwards over the five-year period, but the overall percentage is less than the goal. These results are essentially the same as those for women over 40, and since the over-50 age group is at greater risk of breast cancer, the data are somewhat encouraging.

The American Cancer Society recommends a mammogram at least every two years for women over 40. The percentages of women who reported having had a mammogram within the past two years are presented in Tables 4 and 5. As indicated in Table 4, only 58.4% of women over 40 reported having had a mammogram in the past two years. When compared to the goal of 80%, the situation is not overly promising. The situation is worse for poor women and those with less than

**Table 3. Percentage of Women 50 and Over in Oklahoma Who Have Ever Received a Mammogram, 1988-1992**

Category		Year					Five Year Percent	Goal
		1988	1989	1990	1991	1992		
50 or older	%	55.8	57.0	62.6	66.0	70.2	63.3	80
	No.	111	171	199	229	275	985	or more
Poor (Family Income less than \$10,000)	%	46.6	43.0	47.8	48.6	50.6	47.2	80
	No.	34	43	43	52	43	215	or more
Education (less than high school)	%	45.7	46.5	46.3	57.3	60.5	52.2	80
	No.	32	46	38	59	72	247	or more
Blacks	%	28.6	53.3	36.8	68.4	90.0	55.7	80
	No.	2	8	7	13	9	39	or more
American Indian	%	33.3	75.0	38.5	62.5	62.5	55.9	80
	No.	2	6	5	10	10	33	or more

**Table 4. Percentage of Women 40 and Over in Oklahoma Who Had Received a Mammogram Within the Preceding Two Years, 1988-1992**

Category		Year					Five Year Percent	Goal
		1988	1989	1990	1991	1992		
40 or older	%	47.5	54.4	57.1	62.4	64.7	58.4	80
	No.	112	200	230	276	291	1,109	or more
Poor (Family Income less than \$10,000)	%	34.9	32.1	41.24	39.0	35.6	37.3	80
	No.	23	30	40	39	26	158	or more
Education (less than high school)	%	37.7	37.0	41.9	50.0	50.9	44.3	80
	No.	23	34	36	49	55	197	or more
Blacks	%	20.0	60.0	43.3	52.2	73.3	51.0	80
	No.	2	12	13	12	11	50	or more
American Indian	%	28.6	71.4	40.0	55.6	50.0	49.2	80
	No.	2	5	6	10	9	32	or more

a high school education, with only 37.3% and 44.3%, respectively, reporting positively. As shown in Table 5, less than 60% of women over 50 reported having had a mammogram in the past two years. However, of the 1,374 women over 40 who had a mammogram, 234 had a clinical indication. Comparable figures for women over 50 are 985 and 159.

A second screening test for the early detection of breast cancer is clinical breast examination. Limited to the period 1990 through 1992, Tables 6 through 9 demonstrate that all categories achieved the year 2000 goals, even those receiving a clinical breast examination in the past two years. That is a tribute to the efforts of Oklahoma physicians.

**Table 5. Percentage of Women 50 and Over in Oklahoma Who Had Received a Mammogram Within the Preceding Two Years, 1988-1992**

Category		Year					Five Year Percent	Goal
		1988	1989	1990	1991	1992		
50 or older	%	48.8	51.3	58.5	60.9	64.2	57.8	80
	No.	83	136	168	184	210	781	or more
Poor (Family Income less than \$10,000)	%	35.6	33.7	42.7	38.9	37.3	37.8	80
	No.	21	29	35	35	25	145	or more
Education (less than high school)	%	37.3	36.1	40.5	50.0	51.6	43.9	80
	No.	22	30	30	44	50	176	or more
Blacks	%	28.6	41.7	36.8	60.0	83.3	47.5	80
	No.	2	5	7	9	5	28	or more
American Indian	%	33.3	71.4	38.4	60.0	50.0	50.9	80
	No.	2	5	5	9	6	27	or more

**Table 6. Percentage of Women 40 and Over in Oklahoma Who Have Ever Received a Clinical Breast Examination, 1990-1992**

Category		Year			Three Year Percent	Goal
		1990	1991	1992		
40 or older	%	93.9	91.6	90.2	91.7	80
	No.	216	284	296	796	or more
Poor (Family Income less than \$10,000)	%	98.4	93.0	90.2	93.5	80
	No.	63	80	74	217	or more
Education (less than high school)	%	97.3	91.4	92.8	93.5	80
	No.	73	95	103	271	or more
Blacks	%	86.7	87.5	77.8	84.7	80
	No.	26	21	14	61	or more
American Indian	%	94.4	78.9	95.0	89.5	80
	No.	17	15	19	51	or more

## Discussion

It is clear that screening tests can detect carcinoma of the breast early. Hence, deaths can be prevented and since extensive surgery, radiotherapy, and chemotherapy can be avoided, the medical care costs are lowered considerably by early detection. Indeed, according to the Department of Health and Human Services, the costs of

treating women with Stage I breast cancer are \$30,000, while those of women with stages III and IV amount to as much as \$250,000. It is essential, therefore, that every effort be made to persuade women to have such screening tests and that physicians perform them.

Based upon the National Health Interview Survey conducted by the National Center for Health



**Table 7. Percentage of Women 50 and Over in Oklahoma Who Have Ever Received a Clinical Breast Examination, 1990-1992**

Category		Year			Three Year Percent	Goal
		1990	1991	1992		
50 or older	%	95.8	89.9	92.7	92.6	80
	No.	160	186	215	561	or more
Poor (Family Income less than \$10,000)	%	97.6	90.0	96.3	94.2	80
	No.	41	54	52	147	or more
Education (less than high school)	%	100.0	85.7	90.9	91.0	80
	No.	17	24	30	71	or more
Blocks	%	93.3	84.6	66.7	85.3	80
	No.	14	11	4	29	or more
American Indian	%	100.0	66.7	100.0	89.7	80
	No.	9	6	11	26	or more

**Table 8. Percentage of Women 40 and Over in Oklahoma Who Had Received a Clinical Breast Examination Within the Preceding Two Years, 1990-1992**

Category		Year			Three Year Percent	Goal
		1990	1991	1992		
40 or older	%	93.0	90.0	88.9	90.5	80
	No.	186	244	256	686	or more
Poor (Family Income less than \$10,000)	%	97.7	89.7	90.2	92.1	80
	No.	42	52	46	140	or more
Education (less than high school)	%	95.0	88.1	88.2	89.8	80
	No.	38	52	60	150	or more
Blocks	%	89.5	87.5	70.0	84.4	80
	No.	17	14	7	38	or more
American Indian	%	100.0	62.5	100.0	87.5	80
	No.	8	5	8	21	or more

Statistics for 1992<sup>2</sup>, only 50% of women reported a mammogram in the past year, which is probably comparable to Oklahoma's percentage based on two years. However, the percentage of women receiving a mammogram is influenced by the type of insurance coverage, varying from 19.3% for the uninsured, to 38.3% for those covered by Medicaid, to 53.6% for those in fee-for-service plans, to 62.1% for those in HMOs. Similar find-

ings are also true for clinical breast examination with the percentages of 38.2, 52.0, 63.8, and 70.5 respectively. For women over 40, the findings are comparable. The data for women over 65, who are at greatest risk of breast cancer, are shocking in that only 38.5% of these women have had a mammogram in the past year, with only 34.2% of those covered by Medicare reporting positively. Again, these results indicate that marked dif-

**Table 9. Percentage of Women 50 and Over in Oklahoma Who Had Received a Clinical Breast Examination Within the Preceding Two Years, 1990-1992**

Category		Year			Three Year Percent	Goal
		1990	1991	1992		
50 or older	%	95.2	88.4	91.6	91.5	80
	No.	138	160	186	484	or more
Poor (Family Income less than \$10,000)	%	97.6	88.2	95.6	93.2	80
	No.	36	45	44	125	or more
Education (less than high school)	%	97.1	86.3	91.8	91.1	80
	No.	34	44	56	134	or more
Blacks	%	93.3	83.3	60.0	84.4	80
	No.	14	10	3	27	or more
American Indian	%	100.0	50.0	100.0	85.7	80
	No.	7	3	8	18	or more

ferences exist between women with a high school education and those with post-high school education (44.8% compared to 60.6%).

The results of this study indicate that Oklahoma women are not obtaining such screening tests in adequate numbers, especially those who are poor or have less than a high school education. With respect to the poor, one encouraging development was the action of the state legislature in 1994 to approve Medicaid coverage of mammography every two years for women over 40 and annually for women at high risk (i.e., those with breast masses, and those with a family history of carcinoma of the breast). Perhaps a growing number of poor women will be screened during the next two years. If so, the costs to Medicaid should be reduced.

### What Can Be Done?

It seems imperative that Oklahoma physicians:

- ◆ Support efforts of the state and local health departments to inform women of the importance of these screening tests, especially women with a high school education or less;

- ◆ Insist that all insurance carriers including Medicaid and Medicare include coverage for mammography according to the American Cancer Society guidelines, i.e., a baseline prior to age 40, every two years from 40 through 49, and annually thereafter in the absence of significant risk factors; and

- ◆ Offer screening tests and encourage their patients to adhere to recommended schedules.

### Conclusion

Far too many preventable deaths and medical care costs are occurring from diseases that can be detected early. This does not even consider the suffering, fear, sorrow, and pain that can occur in those who have advanced disease. Physicians have a major role in preventing deaths from breast cancer.

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Although there are many types of healthcare fraud, the greatest part of the enforcement effort will be directed towards billing practices.

## Healthcare **FRAUD** Enforcement in 1995

Robert G. McCampbell

**T**he Government Accounting Office estimates that between \$80 and \$100 billion is lost each year due to healthcare fraud. On September 22, 1993, President Clinton stressed to Congress the need to "crack down on fraud and abuse in the (healthcare) system," and Attorney General Janet Reno has named healthcare fraud as her number two law enforcement priority behind violent crime. June Gibbs Brown, Inspector General for the Department of Health and Human Services, has also announced plans for increased enforcement efforts. Locally, the U.S. Attorney's Office in Oklahoma City has initiated a healthcare fraud program which includes both civil and criminal attorneys. The State of Oklahoma has formed a Medicaid Fraud Control Unit within the Attorney General's Office.

In which direction will these enforcement efforts be oriented? This article will address the four areas on which it is anticipated governmental efforts will focus: billing, prescription drug marketing, clinical laboratory services, and Stark II. I will conclude with a look at legislative proposals for 1995.

### **Billing**

Although there are many types of healthcare fraud, the greatest part of the enforcement effort will be directed towards billing practices. Investigators and civil and criminal attorneys are being urged to concentrate on the following billing

practices: (1) upcoding, (2) unbundling, (3) phantom billing, (4) two-tiered billing, and (5) billing for services not medically necessary. Barbara Poarch, Healthcare Fraud Coordinator at the U.S. Attorney's Office in Oklahoma City, states that her office would be particularly concerned where false statements appear in billing documents.

### **Prescription Drug Marketing Schemes**

In August 1994 the Department of Health and Human Services (HHS) issued a Fraud Alert specifically dealing with payment to healthcare providers for directing consumers to particular brand name drugs. The memorandum concerned the Medicare/Medicaid Anti-Kickback Statute which prohibits the receipt of any type of remuneration for referring an individual for any service or item payable under the Medicare or Medicaid programs, 42 U.S.C. §1320a-7b(b). HHS indicated its concern with the following scenarios:

- ◆ A "product conversion" program in which pharmacies receive cash awards each time a prescription is changed from drug company B's product to drug company A's product.

- ◆ A "frequent flyer" program in which a drug company gives physicians frequent flyer mileage for completing questionnaires when new patients are placed on that company's product.

- ◆ A "research grant" program in which physicians are given substantial payments for research of questionable value or slight record keeping tasks relative to a drug manufacturer's product.

Any payment or remuneration based on the

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value or volume of business generated for a drug company would be suspect in the view of HHS.

### **Clinical Lab Services**

In October 1994 HHS issued another Fraud Alert entitled "Arrangements for the Provision of Clinical Lab Services." In that publication, HHS stated its view that the following types of arrangements may violate the Medicare/Medicaid Anti-Kickback Act:

**Phlebotomist.**—A phlebotomist provided by the laboratory performs other additional services which would normally be performed by the physician's office staff including clerical services, nursing functions, or testing for the physician's office laboratory.

**Waste Disposal.**— Free pickup and disposal of biohazardous waste products, such as sharps, is provided by a laboratory unrelated to the collections of specimens for that laboratory.

**Equipment.**— Provision of equipment, such as a computer or fax machine, which would be of general assistance to the physician. A laboratory can provide equipment which is integral to and exclusively used for that laboratory's work.

**Free Testing.**— Provision of free laboratory service for healthcare providers, their families, and employees.

**Waiver of Charges.**— Waiver of charges to managed care patients in an effort to retain that provider's referrals for non-managed care patients.

HHS has indicated a particular concern with payment for laboratory tests related to end stage renal disease (ESRD). Some ESRD testing is considered routine and included within the composite rate paid by Medicare. Where a laboratory conducts the tests which are within the composite rate at a charge below fair market value, upon the condition that the facility will refer all of its noncomposite rate tests to that laboratory, the Anti-Kickback Statute could be implicated.

### **Stark II**

On January 1, 1995, Stark II, 42 U.S.C. §1395nn, which prohibits referrals to certain entities with whom the physician has a financial relationship, became effective. Stark II concerns referrals for the following services: (a) physical therapy, (b) occupational therapy, (c) radiology including MRI, CT scan, and ultrasound, (d) radiation therapy, (e) durable medical equipment, (f) parenteral and enteral nutrients and equipment, (g) prosthetics, orthotics, and prosthetic devices, (h) home health, (i) outpatient prescription drugs, and (j) inpatient and outpatient hospital.

On October 7-8, 1994, Stark II was amended. Where the statute had included radiology or "other diagnostic services," it was amended to specify MRI, CT scan, and ultrasound services. The amendment clearly excludes Holter monitors, EKGs, mammograms, and cardiac testing from Stark II.

### **Future Legislation**

A wise old treasury agent once told me that all Congressional action in the law enforcement field should be analyzed as an attempt by Congress to deflect investigators' attention away from themselves. Whether one believes this motive or not, it seems certain that Congress will act to increase law enforcement's attention in the healthcare fraud area.

It is likely that healthcare fraud legislation will be passed by Congress this term regardless of whether a comprehensive reform package is enacted. Among the current proposals is a request from HHS for a new substantive statute to address healthcare fraud. Second, Congress will almost certainly take some action to increase resources again for enforcement. One proposal (HR 5258) makes a provision for a "trust fund" in which monetary collections from enforcement in the healthcare field could be used to fund further enforcement. Third, there will likely be some provision to expand civil remedies including civil monetary penalties, the ability to exclude providers from payment programs such as Medicare and Medicaid, and remedies under the Civil False Claims Act. Fourth, there will likely be enactment of an "all payer" fraud statute. For example, the Medicare/Medicaid Anti-Kickback Act could be expanded to apply to payments from all payers.

### **Conclusion**

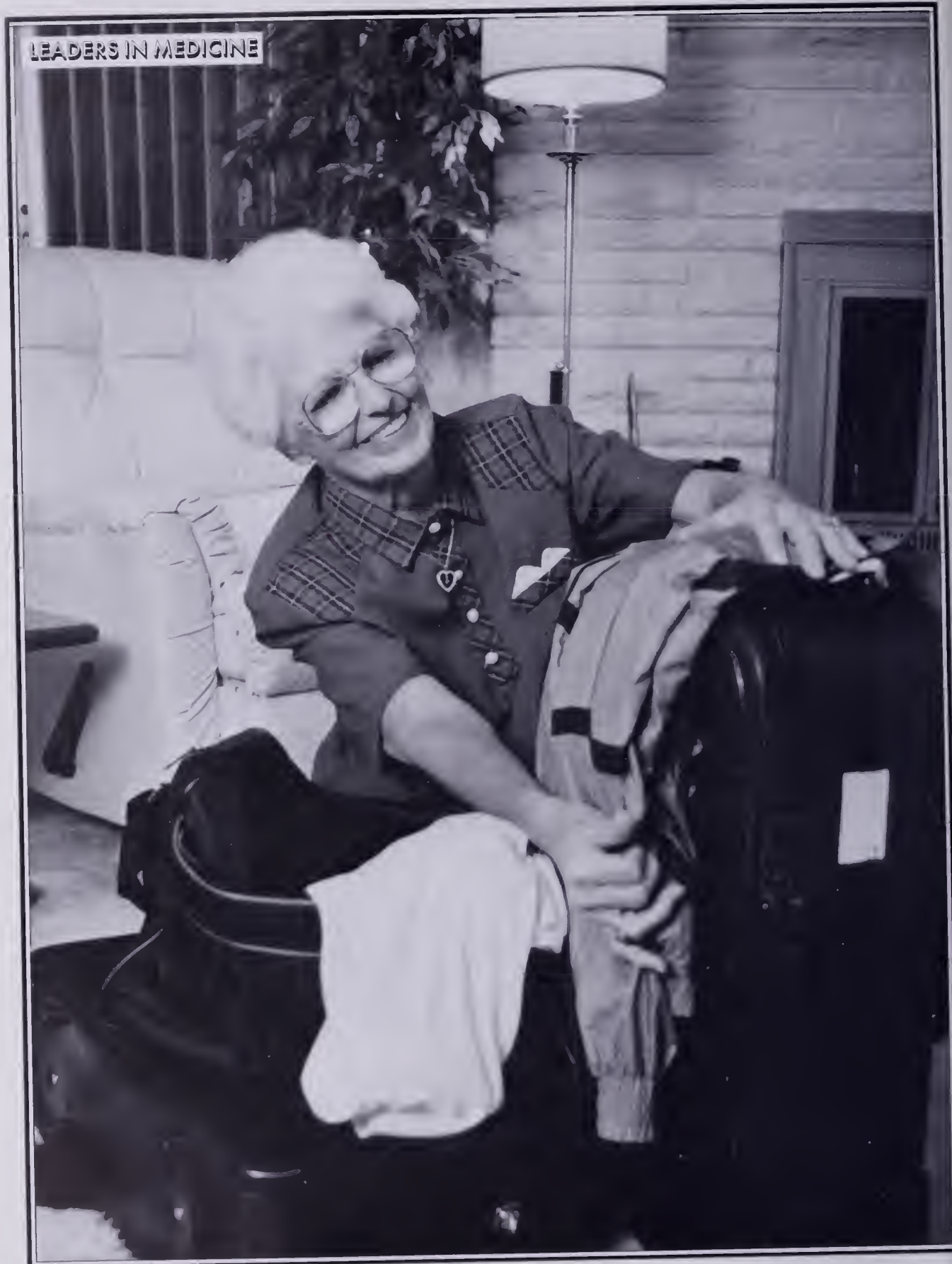
In today's changing legal environment, it is impossible to predict all the coming developments in the healthcare fraud area. It is a certainty, however, that enforcement efforts will continue to increase. A current review of one's practices in the areas of greatest governmental concern will help avoid problems with the government in the future.

It seems certain that Congress will act to increase law enforcement's attention in the healthcare fraud area.

### **The Author**

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LEADERS IN MEDICINE





She never feared going alone into the tenements because in the 1950s they lacked one element... drugs. "Back then, our white coats and black bags were symbols that we were there to help. Today, they would make you a target."

**Joan K. Leavitt, MD**

## **THE COMMISH MOVES ON**

**T**here is a certain school of thought that holds that the main motivation most people have for excelling in life is to please their parents. Furthermore, this force often transcends human development; it remains compelling more or less throughout life, though finding even traces of evidence during one's adolescence may be very difficult.

Although Joan Leavitt, the commissioner of the Oklahoma State Department of Health for 16 years, until 1993, never claimed the theory applied to her, her father seemed to be an archetype of the model; when Dr. Leavitt spoke of his death 20 years before, her eyes filled with tears.

She speaks of him with reverence but her reverie has little personal detail; she then provides a formal three-page biographical sketch developed by the Harvard Medical School. Most of what she had said was contained in the sketch.

His accomplishments were monumental and the first ones, such as learning to speak English at the age of 16, were a necessary prelude. Varaztad Kazanjian was born in Turkish Armenia in 1879. Because of political instability and the threat of war in 1895, his older brothers shipped him to America, against his ringing objections. The teenager had been, after all, handing out partisan leaflets that eventually would make him somebody's target. He landed in Worcester, Massachusetts, living with an Armenian family and working in a wire mill.

Although he could have functioned almost exclusively in the Armenian community, he chose instead to amalgamate himself into American society and study a profession. He spent a por-

tion of the 12-hour work days learning English and much of the rest of his day taking night school courses. This was one highly goal-oriented, self-disciplined teenager. He saved what little money he could, but made only \$25 weekly, counting overtime.

The Harvard publication says that because he was good with his hands, he decided on dentistry and was admitted to the Harvard Dental School in 1905. That's akin to saying that because Theodore Roosevelt was politically adept, he became President. At any rate, after Kazanjian graduated in 1905, he joined the faculty and over the next decade created innovative prostheses for hundreds of cases of fractured jaws and congenital jaw deformities.

**W**hen World War I broke out, Kazanjian joined a 15-man Harvard unit that served in France with the British Army. Under his direction the unit treated more than 3,000 cases of gunshot, shrapnel, and other severe wounds of the face and jaw. In 1919, Dr. Kazanjian was decorated personally by King George V at Buckingham Palace. A few months later, he entered the Harvard Medical School. He became the class hero after some visiting British professors who were to demonstrate some head and oral surgical techniques suddenly exclaimed that one of the students was none other than the man, Varaztad Kazanjian, who had taught them the techniques in the fields of France.

He graduated in 1921, joining the Harvard dental and medical faculty and became the "outstanding figure in New England plastic sur-

By RICHARD GREEN

Photography by  
ROBERT TAYLOR



gery and dental surgery over the next 60 years." He did it with equanimity, aplomb, and modesty, traits that Joan may have inherited. Though he became well-to-do, he had no interest in money, and business affairs were handled by his wife, Marion. Joan, too, never was interested in accumulating money or in the business aspects of running her own pediatrics practice.

She became a physician first because of her father, though even now she says she doesn't understand the dynamic that began as childhood emulation and matured years later. Did she become a physician because she thought it would impress him? Honor him? She has no idea.

Ultimately, it didn't matter because she came to love practicing pediatrics and caring for all her patients. Her care was provided non-judgmentally, which wasn't an easy attitude to achieve for a girl raised in an economically and culturally homogeneous environment. But her father's influence on Joan was pervasive throughout her careers in medicine and in public health. During her childhood, the Kazanjian family usually only came together at dinner, which at some point would almost invariably include her father's question to his three children: "What did you do today to justify your existence?" Joan never liked to let down her father.



Home visits were good training, she believed. "Since there was no pressure to hurry, there was time to observe, listen, establish some rapport..."

**V**iewed through a long lens, Joan Leavitt's life has had two distinct parts. The first part took place in and around Boston where she and her brother and sister were raised in a life of privilege, prosperity, and security. A live-in nanny, private schools, a large English Tudor house in an affluent suburb, an 11-bedroom house in New Hampshire, expensive summer camps, national and international travel.

The Great Depression came and went and had no impact whatever on her and her family. During her teenage years, as the Great Depression gave way to the Great War, she couldn't even imagine the privations experienced by millions of other Americans or of her own father when he was a teenager. He didn't talk about those years. Always look forward, he said. The past can't be undone, so why hash it over.

Joan graduated from Radcliffe in 1947 and received a master's degree in zoology from Smith College two years later. Then she entered the freshman medical school class at Boston University. After graduating in 1953, she interned in Boston and went through a pediatrics residency at Boston hospitals.

Part II of her life began only a few weeks later in Altus, Oklahoma, of all places.

A former medical school classmate had invited the newest Dr. Kazanjian to be with her for the birth of her baby, in Altus. The invitation came at an opportune time; Joan had just finished her residency and was entertaining offers to join pediatric practices in Boston. Sometime during her stay, which extended over three weeks, she made a decision that many in Boston and perhaps some in Altus thought was bizarre. She decided to establish her first practice not in Boston, rounding at Mass General, but right there in Altus. Had the summer heat of southwest Oklahoma fried her brain?

**"I**t was the people," she says. She was alluding to their friendliness and the sparseness of them; compared to Boston, Altus was nothing if not wide-open spaces. While the town's physicians didn't exactly recruit Dr. Kazanjian, they were helpful when she began her practice. She considered Dr. Malcolm Mollison to be an almost perfect family physician. She also eventually developed a romantic interest in Don Leavitt, a former pianist with several big-name dance bands who had settled down in Altus as the high school band director.

As the administration of the new president, John F. Kennedy, was getting underway, the name "New Frontier" also seemed to fit Joan Kazanjian's new life.

She had just opened her new office in town and was noting that some of the accoutrements of practicing in Boston, such as the latest, most sophisticated state-of-the-art lab tests, were missing in Altus. She decided that in some cases she would have to practice more intuitively.

She recalled one of her faculty physicians, a superb pediatric diagnostician, who seemed to have a sixth sense for detecting infectious diseases like measles. Of course, he did have one quirk... He wouldn't let anyone under him use antibiotics because he "didn't believe in them." So at this prestigious Boston hospital, with the connivance of the rest of the staff, the residents prepared two hospital records for most of the infectious disease patients: the one for the attending and the one for everybody else, documenting the use of antibiotics.

Dr. Kazanjian had only been practicing for a day or two when Dr. Charles Green paid her a visit. As the medical director of the state health department's Lawton clinic, Green was, in part, responsible for recruiting physicians to staff the region's clinics. Whenever a new physician set up a practice in the area, Green would wait a decent interval—say 24 hours—before showing up to offer them the opportunity of delivering

public health service as they built up their practices.

Aside from having free time, Joan had another reason for saying yes. During her training, she had had extensive experience in the home medical service, a program that combined medical training for students and residents with medical care for people living in Boston tenements.

"I thoroughly enjoyed the home visits," she says. That she did was remarkable, given that people are usually most uncomfortable in foreign surroundings. But while she had an upper middle-class orientation, her sensibilities weren't so confined. Despite her patients' squalid living conditions, she saw them just like her father did, as people who needed help. "The only thing that bothered me was the filth. You could be poor and clean."

Sometimes she told them that. Once, in the home of a family that (she felt sure) hadn't bathed in days, she found that the bathtub was being used as a dirty clothes bin and that the bathtub wasn't broken. Where do you wash up? she asked. Usually at the kitchen sink. She persuaded them to relocate their clothes and bathe in the tub.

She says the great majority of her patients and their families appreciated her presence and tried to pay her in some small way, often by inviting her to stay for a meal. She didn't like to accept because they had so little, but on the other hand, she didn't want to insult them. One disabled teenage boy showed his appreciation to Kazanjian by knitting her a handkerchief; she kept it with her for years afterward.

She never feared going alone into the tenements because in the 1950s they lacked one element that has become pervasive today: drugs. "Back then, our white coats and black bags were symbols that we were there to help. Today, they would make you a target," she says.

**H**ome visits, she believed, were good training for any medical student or resident. "Since there was no pressure to hurry, there was time to observe, listen, establish some rapport, determine their needs, their obstacles, in ways we never could during an office visit," she says. "A lot of their problems were inter-related. We could diagnose and treat, but we could also call in other professionals if need be—a case worker or a visiting nurse."

This was also particularly good training for anyone interested in public health because the system in the late 1950s was still based on case management: visit the home, assess the needs, and treat accordingly.

But by the early 1960s, a new trend away from



Dr. Joan Kazanjian married Don Leavitt, a former pianist and the Altus High School band director, in 1964.

home visits was taking hold in medical and public health circles. Home visits were being called a waste of time or a luxury physicians could no longer afford. Public health offerings and services increasingly were provided out of city or county health buildings. The changes were gradual and often almost imperceptible until Congress enacted the Medicare and Medicaid programs in the mid-1960s.

At this juncture, from 1959 until 1964, Kazanjian practiced pediatrics in Altus and gradually became more and more involved in public health. Dr. Green had asked her to come to Lawton once a week to do neurological exams on children in the guidance program. By 1960, she provided the same exams for Jackson County in Altus and began offering well-baby clinics after she realized that the migrant workers couldn't afford her charges, which were \$3 for a clinic visit and \$5 for a home visit. "The (public health) nurses and I began doing more patient and family education and we could see that we were doing some good."

By then, she was part-time medical director of public health for Jackson County. She still liked having a private practice but the county's offering were growing and her hours were getting longer at a time when she was dating Don Leavitt.



The average life of a health commissioner was five years and shrinking. No one could have imagined that Leavitt would remain in office for 16 years.

When they got married in 1964, Dr. Leavitt went full time at the health department and quit her private practice to have more time with Don and her new instant family. He had two children, Lynda and Mark, from a previous marriage. By going full time, she also could begin to meet the county's health needs better.

**"T**he nurses and I mobilized," Leavitt says. "The most fun I ever had was in local health. We hit up drug salesmen for all the samples they could give and then gave the medicine to our patients free of charge. We asked the churches to help us and their members began donating food and formula, which we handed out to people who didn't have any money. We rolled into the gin camps (short for cotton gin) where migrant workers lived and did childhood immunizations right off of a pick-up truck.

"I examined all children who came in for an immunization and if they were sick I treated them. We also ran well-baby clinics in nearby counties and a prenatal clinic for migrant workers and others. We got a grant for the prenatal clinic. It was staffed in Altus by community doctors taking turns and OU preceptees."

In 1967 Don was offered a better job in Ponca City at a time when Kay County was looking for a full-time medical director. She accepted and began facing a completely different challenge. Some of the doctors were antagonistic toward public health. Some believed that the government had no business providing health care.

Leavitt worked slowly, carefully, and with finesse. She saw that one of the most hostile doctors was appointed to the county board of health and after a time, according to Leavitt, "he became one of our biggest supporters." Still, there was widespread resistance to developing screening clinics for chronic conditions such as hypertension and glaucoma. And it was difficult to recruit physicians to cover the county health clinics, particularly the prenatal clinic.

Leavitt began by recruiting nurses who were respected and trusted by the doctors; that was an immediate ice-breaker. Leavitt also did occasional backup for the town's only pediatrician and took call at the hospital despite not having treated adults in several years. She was also on call to treat injuries and illnesses occurring in the schools if the child's family had no doctor.

In those days, county health medical directors also were administrators. Consequently, her job also involved supervising sanitation workers. "We closed down a few restaurants due to filthy conditions and repeat outbreaks of hepatitis A or

dysentery," she says. "I liked the variety of the work so much that early on during my nine years in Ponca City I decided that public health administration would be my career."

When pediatrician Jerry Nida joined the state health department in 1974, he was asked to visit Kay County's health department as an example of a smooth running operation. That this was so was all the more remarkable given that the funding wasn't from a millage but had been allocated by county commissioners who had been persuaded by Joan Leavitt. "In nine years she had done a terrific job of getting everybody on board," Nida says.

It was time to move on. The opportunity arose when Dr. Sara DePersio left her position as chief of the department's division of maternal and child health. Commissioner LeRoy Carpenter offered the job to Leavitt. She looked forward to heading a statewide program, and moving to Oklahoma City. But within a couple of months, Dr. Carpenter announced his resignation, catching everyone, including the state board of health, completely flat-footed.

There was no successor in sight and the department's number two person, Dr. Walter Atkins, was by statute ineligible because he was not a physician; he was a dentist and about to retire anyway. Atkins was named interim commissioner and the political wheels started to move.

■

**D**r. Atkins elevated Leavitt to his former position, deputy commissioner for personal health services. She would be in the running for the top job if she wanted to be. Leavitt says at first she wasn't sure. "I wanted the challenge but was afraid I might not turn out to be the kind of administrator who could handle the job."

A long talk with Dr. Dave Steen, whom she had called her mentor in public health administration, helped to clarify and focus her thoughts and bolstered her confidence.

Rumors abounded about who was out and in and even today Leavitt says she isn't sure what was fact and what was fiction. She had heard that Dr. Mark Johnson, editor of the state medical journal, was the favorite among the board. But she says two female legislators, Joan Hastings and Helen Arnold, told her they went to Gov. David Boren and insisted he support Leavitt. The board held a short, perfunctory interview with her and shortly thereafter appointed her commissioner, effective July 1977.

The average life of a health commissioner was five years and shrinking. No one could have imagined, least of all Leavitt, that she would remain



in office for 16 years, spanning the administrations of three governors. Her first several months were "very difficult." Some of the board members had "strong personalities and were rather set in their ways," says Dr. Nida, who was then chief of maternal and child health and is now himself commissioner. "They would be more apt to tell you what you were doing wrong than right. And they had a capacity for springing surprises on the staff that made each board meeting an adventure in anxiety."

**L**eavitt intended to take at least six months to get to know the place and figure out what the job was and how to do it. After 18 years she knew local health and the full cast of players. But she knew very little about the environmental division of the operation and hoped that her inherited senior staff would get her up to speed. Unfortunately, two soon retired and one died.

"Some of us county directors used to say, 'If I was up there I'd show 'em how to do it,'" Leavitt recalls. "Well, I got up there and found my perspective wasn't quite the same." For one thing, she had always advocated decentralized control. "Local people know what they need and how to solve their problems," she had always said. "Just let them do it." Accordingly, one of her announced goals in 1977

was to expand the number of counties covered by the health department from 61 to all 77.

But what seems good theoretically sometimes doesn't work in practice. Directing a 1,200-employee state agency is several dimensions removed from managing 15 people in Kay County. A lot of what the health department does is mandated and funded by the federal government, and strings are always attached. Political considerations have to be identified and weighed and often outweigh other factors. "I think the board might have had some initial reservations about me because I didn't have experience with the Legislature... and probably because they thought the legislators would intimidate a woman," Leavitt says.

They needn't have worried, Nida says. "She turned out to be very adept politically. She was low-key and cordial, but always courteous and respectful. And to my knowledge she never talked down to them or told them any lies." All of this enabled her to develop an excellent working relationship with the leadership, people like former Speaker Jim Barker and the late Don Mineer, the powerful chairman of the House Committee on Human Services.

Leavitt said she worked best one-on-one with legislators. When she told them what she need-

"Local people know what they need and how to solve their problems. Just let them do it."

—Don Mineer, MD

## 1977-1963: The OSDH Under Joan Leavitt

### Women and Children

|| Hypothyroidism testing for newborns expands statewide, 1980. || Genetics counseling network established, 1981-82. || Newborn hearing screening established, 1983. || WIC (Women, Infants, and Children) services expand. || Southern Regional Task Force on Infant Mortality formed, 1984. || Office of Child Abuse Prevention established 1984-85. || State perinatal funding increases, 1985. || Governor's Summit on Families, Children and Youth, 1988. || Child Health Services such as EPSDT, Title XIX; car seat loaner program, maternity clinics, and dental health education in schools added or expanded. || Blood cholesterol testing programs begun. || School-based guidance counseling expanded.

### Personal Health

|| Statewide screening begun for TB in nursing home patients. || Agent Orange legislation enacted, 1982. || "I'm in Control" diabetes education program established. || DES (diethylstilbestrol) registry established. || AIDS

becomes full-blown program. || Smokeless tobacco education offered. || Toxic shock studied. || OSDH receives Medicare B flu grant to conduct pilot project. || Measles outbreaks: 1980, 1982, 1989. || Mumps: 1989.

### Environmental Health

|| Thirty-three of Oklahoma's larger reservoirs tested for toxic pollutants. || Rural waste disposal problems recognized; open dumps eliminated; roadside dumping problems addressed. || Auto emission inspection programs begun in Tulsa and Oklahoma City. || Superfund legislation enacted; Oklahoma sites added. || Asbestos surveillance in public schools, 1980. || Asbestos inspections conducted in state-owned, state-used buildings, and public and private K-12 schools, 1986. || EDB pesticide-tainted food recalled, 1984. || Central Interstate Low Level Radioactive Waste Compact Commission formed by Oklahoma, Kansas, Nebraska, Arkansas, and Louisiana. || OSDH increases licensure functions to add hearing aid dealers and

fitters, 1980; electricians, 1982; barbers, 1985; alarm industry, 1985; and mechanical contractors, 1989. || Tire recycling legislation enacted.

### Special Health

|| Legislation rewrites Nursing Home Care Act for first time since 1950s. || EMS Act passed to upgrade ambulance services, 1981. || New state jail inspection standards established, 1983. || Oklahoma Health Planning Commission disbanded; function transferred to OSDH.

### Elderly

|| Eldercare begins expansion from pilot project, 1982.

### County Health Departments

|| Nine new county health departments established: Grant, 1981; Noble, 1983; Osage and Washington, 1985; Canadian, Major, and Pawnee, 1988; Blaine, 1989; and Harmon, 1990.

||

Always a woman on the move, Joan Leavitt now has time to indulge fully in one of her favorite pastimes, traveling.



ed, she felt she could defend it. That didn't mean she always got what she wanted; their dialogue was give and take, if occasionally stormy. But once a budget agreement was reached, that was it, at least as far as the public knew. To the best of anyone's recollection, Leavitt never tried to manipulate the Legislature by issuing dramatic press releases, holding press conferences, or leaking information to the media. Furthermore, a computerized search of her name in *The Daily Oklahoman* from 1980 through 1992, turned up no articles of a controversial or critical nature. Politics, in her opinion, was the art of the possible.

Her credibility with the lawmakers increased even more in the early 1980s after she told them that she couldn't spend the \$3 million they had appropriated for the health department's child guidance system. Child psychologists and speech therapists don't grow on trees, she told them. Give me half this year and go from there. Nida says that they still couldn't spend the \$1.5 million and that the Oil Bust wiped out the rest.

She needed the credibility because some legislators had a basic misunderstanding of what public health is. Why do you need all these screening clinics? Why don't you let the practicing physicians take care of their community's health needs? Others wondered, if you are the health department, why don't you treat the sick?

Once, the Legislature appropriated money to hire nurses to provide early prenatal care for eligible women, but only in counties that had a physician under contract. In one county, Leavitt re-

calls, "we had no physician so we took the \$40,000 and moved it to an adjacent county where there was a doc who would supervise the nurses in both counties. Well, the legislator representing the county that lost the money (but not the service) accused me of misappropriating the funding and though I tried to make him understand, I apparently never could."

Though this anecdote might seem extreme, similar examples in a highly politicized atmosphere have greased the skids for other agency heads. However, with solid support in the Legislature, things never got out of hand. When Henry Bellmon was elected governor in 1986, he announced his intention to bring in his own people, which meant that Joan Leavitt would be leaving. But, she says the Democratic leadership of the House told Republican Gov. Bellmon to leave Dr. Leavitt alone. He did.

Her management style, says Nida, was matriarchal. "She knew everyone and something about many of their children. But she still managed to run the department in an efficient way. We wouldn't dare do anything not right because we were afraid she would disapprove of us."

**H**er subordinates could have their say to her and others; she didn't mind strong-willed, vocal people as long as they were advocating, not pontificating. Nida remembers a meeting between health department officials and legislators over a plan to develop a comprehensive statewide emergency medical care system. "Our EMS medical director Bob Wilder had put in considerable time and effort in this proposal and although Dr. Leavitt knew it wasn't feasible economically, she supported the concept. So she stayed in the background and let Bob go. Finally, Sen. Phil Watson said 'this thing sounds very expensive. What will it cost?' Bob agreed it would be very expensive but told them about a golden hour when lives could be saved. Watson said 'I think you ought to load 'em in a pick up and drive like hell.' Bob was flabbergasted, but Dr. Leavitt thought the remark was hilarious and a unique way of telling Bob he wasn't in the real world."

Leavitt hired good people and delegated authority to them to get the work done. When new programs and services were started, even during the retrenchment years following the Oil Bust in 1983-84, most often members of her staff, not her, would be identified with the accomplishment and, according to Nida, that suited her just fine. "She never had an ego problem."





**D**uring her tenure as the state's top health officer, Leavitt says she worked with and around many fine public servants, but none she admired more than Lloyd Rader, who was said to be the most powerful person in the state as director of the state welfare department. "I once met with him when I was upset over something," Leavitt says. "And he picked up the phone and told someone, 'I want this changed immediately.' Nothing happened, but I always left his office feeling better. I learned a lot from him."

"Mr. Rader accomplished so much good and when they asked him to rescue the teaching hospitals, he made them into first-class facilities, and instead of thanks he got chastised. He told me he'd never been so hurt in his life. He was so disillusioned that he decided that when he died he wouldn't be buried in Oklahoma."

She says that Hayden Donahue was similarly criticized near the end of his long and pioneering tenure as director of the state mental health department. "I was in a meeting with him one day when he was taking this awful pounding and I asked, 'How can you stand this?' He said, 'I just go into my psychiatrist mode.'"

Is Leavitt suggesting a pattern? "If you are successful in Oklahoma, they try their best to tear you down." Although that refrain is familiar to many in the state, it doesn't quite apply in Leavitt's case. She had voted for David Walters and believed he had the makings of an excellent governor. She believes she ran afoul of him over a disagreement on a departmental budget item. "On that day, I came back from the capitol and told one of my staff members that I had probably just lost my job."

Shortly thereafter, she says some of the governor's staff took her to lunch and asked her to resign, effective January 1, 1993. "Don and I had been thinking about retirement and what we wanted to do with it for some time. If they had asked nicely, I probably would have, but since they put it that way, 'resign by January 1,' I refused."

Jerry Nida says he wasn't privy to all the details, but notes that although Leavitt had been talking about retirement during the first part of the Walters administration, she also said she still liked the job and had things to do.

Nida says she also told him that she didn't like anything about Healthy Futures, the glitzy, high-profile campaign to increase childhood immunization rates. Leavitt says the program predated Walters as governor and that, as customary in such public health campaigns, she offered Oklahoma's first lady—in this case, Rhonda Walters—the opportunity to become involved.

The campaign then became, among other things, a vehicle for squeezing out Leavitt, because the governor's chosen liaison with the public relations company that ran the campaign for the health department was not Leavitt but Dr. Tom Peace, her senior deputy.

Meanwhile, although Leavitt says she had the support of the board for the time being, she could see the handwriting was on the wall. Many of her supporters in the Legislature were gone by then so, discretion still being the better part of valor, she agreed to step down in January as commissioner; however, since Peace, the new commissioner, was a PhD, not an MD, she thought she should break in a new position, senior medical officer, for six months.

The board agreed, but the new position which she worked to define during her six months, never took off. It was advertised but no one applied. She thinks probably no MD who was qualified to be commissioner was willing to play second banana.



**O**ne and a half years later... and Joan Leavitt still feels the sting of bitterness over the way she was treated. But she is completely unwilling to let that emotion define her. She knows she did a good job and that is enough. She is comfortable with the fact that history, ultimately, is what historians say it is, and she did not go a step out of her way, even for this story, to defend or enhance herself or her image.

And so Varaztad Kazanjian's legacy to her continues to unfold, even relatively late in her life. She remembers her father, shortly before his death, watching Richard Nixon giving his resignation speech on TV. And this man who had always loved discussing and arguing politics told his daughter, "You know, at my age, politics doesn't mean much anymore."

The Healthy Futures campaign became, among other things, a vehicle for squeezing out Leavitt...

Begun in 1981, the Leaders in Medicine series has recognized some of Oklahoma's most outstanding physicians. This is the twenty-seventh biography in the series.

Richard Green is a free-lance writer based in Oklahoma City and has been writing the Leaders in Medicine biographies since 1985.

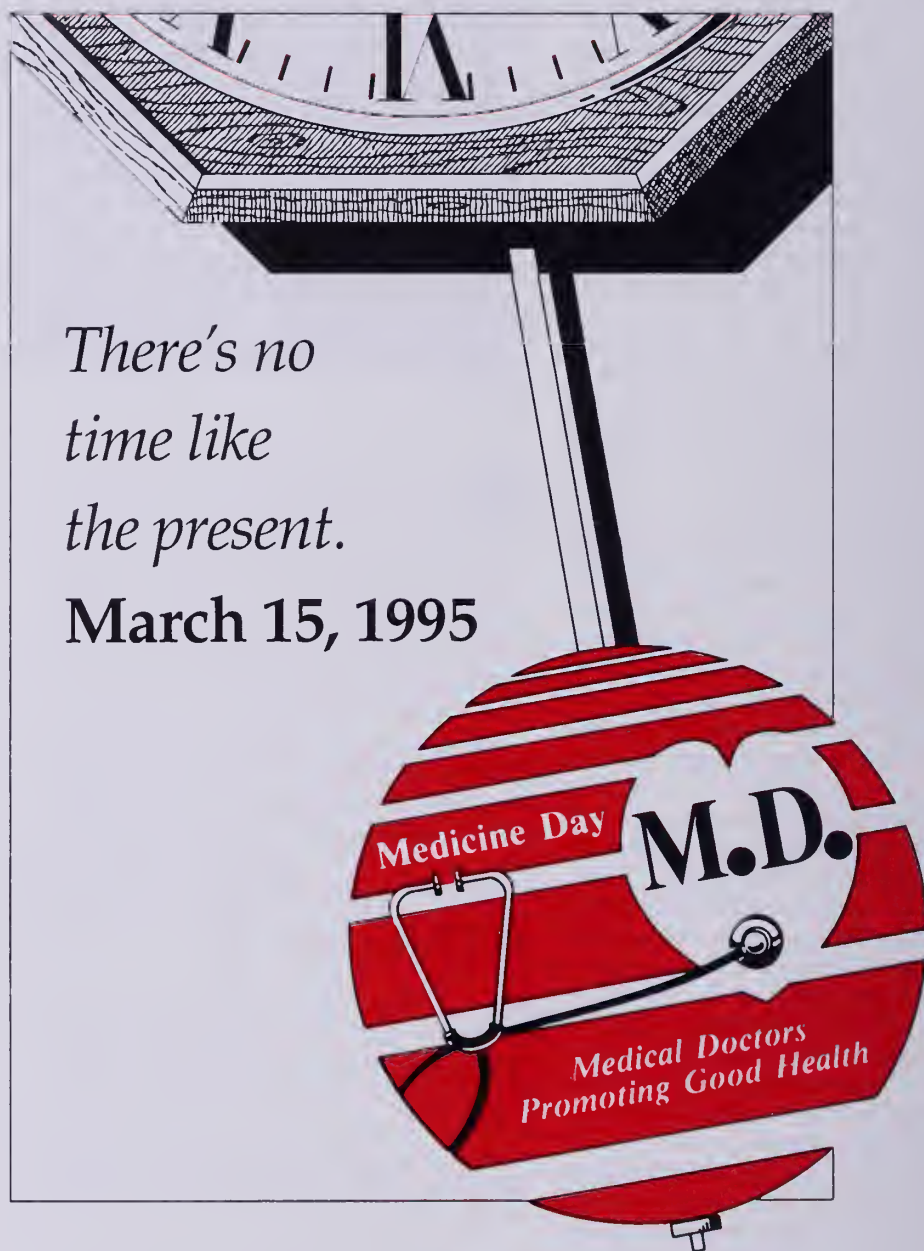
Robert Taylor, an Oklahoma City-based photographer, has done several Leaders in Medicine stories for the JOURNAL.



# Save The Date!

*There's no  
time like  
the present.*

**March 15, 1995**



## Dream of OU Family Medicine Center finally becomes a reality

The University of Oklahoma Health Sciences Center's long-awaited facility to house family medicine faculty and clinics formally opened January 4.

When he was governor, OU President David L. Boren was one of the original architects of the family medicine program at OUHSC. In addition, both a medical scholarship program to train doctors for underserved rural areas and a program to train emergency medical technicians for rural areas were initiated during his term as governor.

"Dedication of this new facility completes a dream that many in Oklahoma have shared for a long time," Boren said. "I congratulate Provost Jay H. Stein and Dr. Roy DeHart, chairman of the Department of Family Medicine and all his colleagues in the department, who worked so hard to make this dream a reality.

"With the faculty and student resources already in place, the opening of this facility will truly put the OU Health Sciences Center in the forefront of family medicine nationwide," Boren added.

Dedication ceremonies took place at the OUHSC's Robert M. Bird Library, with ribbon-cutting ceremonies immediately following at the new Family Medicine Center, located at 900 Northeast Tenth Street. Keynote speaker was Dr. Douglas Henley, president-elect of the American Academy of Family Physicians (AAFP). Featured guests included Governor David Walters, Governor-elect Frank Keating, members of the Oklahoma State Legislature, state family practice physicians, and other dignitaries.

Located just west of the State Depart-

ment of Health, the two-story, \$7.75 million center features nearly 70 examination rooms, five clinics, and a second floor devoted entirely to administrative and academic offices and support space. The first floor consists of clinics and clinical support areas such as laboratories, X-ray rooms, and examination and procedure rooms.

With 71,000 square feet available, the center finally brings together a department whose members have been scattered across the OUHSC campus in five buildings and in a 20-year-old trailer.

"With the OU Health Sciences Center's emphasis on training primary care physicians, this is a culmination of many years' planning, and a proud day for the Department of Family Medicine and the university," said Dr. Stein. Funded with \$3.25 million in state-appropriated funds and \$4.5 million in 1992 state

bond proceeds, the center is a state-of-the-art facility dedicated to the education of family medicine physicians, physician assistants, and other related health care personnel, Stein explained.

The building's 68 examining rooms, three general clinics, geriatric clinic, and occupational medicine clinic all are set up to facilitate "team" interaction. Specialty services to screen family medicine patients for dental and eye diseases also are planned, DeHart noted. "Offering specialty screening not only will allow educational opportunities for our residents, but also will expand our patient care services," he said.

The university's first venture into implementing an electronic patient medical records' system also will be housed in the building.

"Individual patient records can be accessed by computer in any of the ex-

*(continued)*

## Annual Meeting '95: Ready or not, here it comes

Last-minute loose ends are being gathered up and plans are being finalized for the Annual Meeting of the OSMA House of Delegates, April 7-9, at the Marriott Hotel in Oklahoma City.

The Opening Session will begin at 9 am Friday morning, April 7, and will be followed by reference committee meetings at 1:30 pm. The Closing Session will begin at 9 am Sunday morning, April 9. Resolutions to be considered by the house must reach OSMA headquarters by March 7, and may be submitted by any OSMA member, county society, or specialty society. Help in preparing resolutions is available from the OSMA executive staff.

### Elections

Nominations are open for OSMA officer positions and slots in the Oklahoma AMA delegation. OSMA President-Elect Larry L. Long, MD, Oklahoma City, will become president in April, but nominations are being sought for the positions of president-elect (one-year term), vice-president (one-year term), and secretary-treasurer (two-year term). David L. Harper, MD, Tulsa, is the incumbent vice-president, and Carol Blackwell Imes, MD, Oklahoma City, is the incumbent secretary-

*(continued)*

**— OFFICIAL CALL —**

**The House of Delegates of the  
Oklahoma State Medical Association  
will conduct its  
89th Annual Meeting  
at the  
Marriott Hotel  
Oklahoma City, Oklahoma**

**April 7-9, 1995**

Opening Session: 9 a.m., Friday, April 7

Closing Session: 9 a.m., Sunday, April 9

All members, delegates, alternate delegates, and county society officials are encouraged and urged to attend. Business to be brought before the House of Delegates must be submitted by March 7, 1995. All items of business will be debated in open reference committee hearings on Friday, April 7.

Any member of the association may submit business for consideration by the House of Delegates. For help in preparing information for submission, please contact OSMA headquarters, 601 Northwest Expressway,  
Oklahoma City, OK 73118  
405-843-9571 or 1-800-522-9452

**Mary Anne McCaffree, MD  
Speaker of the House**



## Family Med Center (continued)

amination rooms," DeHart said. "Selected exam rooms also are equipped with television monitors so that physicians can observe medical students and residents as they interview patients—a rather unique teaching function."

Stein said the applicant pool to the OU College of Medicine has never been greater, and that OU is witnessing "renewed interest" by medical students in the discipline of family practice. The college has been consistently rated in the top 20 comprehensive medical schools—those that train family practice physicians—by *U.S. News & World Report*.

## Here comes Annual Meeting '95 (continued)

treasurer; both are eligible for re-election. Any active OSMA member in good standing may run for these positions. Nominations for these positions must come from a member of the House of Delegates.

Four (4) slots for AMA delegate will be open this year. The incumbent delegates, all of whom may run for re-election if they choose, are Ed L. Calhoon, MD, Beaver; Norman L. Dunitz, MD, and Michael J. Haugh, MD, Tulsa; and William O. Coleman, MD, Oklahoma City. In order to run for an AMA delegate position, a physician must have served at least one term as an alternate AMA delegate or as a general officer of the OSMA (president, president-elect, immediate past president, vice president, secretary-treasurer, speaker or vice speaker of the House of Delegates, or chair or vice chair of the Board of Trustees).

Four (4) slots for alternate AMA delegate also are open this year. The incumbents, all eligible for re-election, are Gary F. Strebel, MD, and Sara R. DePersio, MD, Oklahoma City; and Edward J. Tomsovic, MD, and G. Lance Miller, MD, Tulsa. Any OSMA member in good standing may run for an alternate delegate slot.

Candidates for both delegate and alternate delegate to the AMA must be nominated by a member of the House of Delegates and must provide, not less than 30 days prior to the election, a letter of nomination signed by a member of the House of Delegates to the association office in Oklahoma City. Members of the House of Delegates are defined as the general officers of the association, delegates and alternate delegates to the AMA, trustees and alternate trustees, delegates elected by component societies and recognized sections, past association presidents, and the deans of the recognized medical schools in Oklahoma, provided they are members of the association. For specific details, copies of the OSMA Constitution and Bylaws are available at no charge from OSMA headquarters, 601 Northwest Expressway, Oklahoma City, OK 73118, 405-843-9571, 1-800-522-9453.

### Social Events

Plans for Annual Meeting social activities are also shaping up. The University of Oklahoma Alumni Association has planned its annual awards dinner for Friday evening, with individual class reunions to follow. Details are being worked out for a golf tournament on Saturday afternoon. The OSMA Inaugural Ball will be Saturday evening at the newly refurbished National Cowboy Hall of Fame and Western Heritage Center. The Putnam City Strings will provide entertainment during the reception beforehand and the University of Oklahoma College of Music Review will perform after dinner. These two groups have appeared at previous Annual Meetings and have been extremely popular. J

"Our academic health center is focusing more sharply on generalist education and community involvement with a clear emphasis on family medicine," he said. "Family medicine is strong and growing stronger."

Medical students and residents who study in the new facility will benefit from greater access to faculty and patients, and also from exposure to the statewide telemedicine program, which will be networked through the building. The system will allow patients statewide to stay in their hometowns, if they desire, and have X-rays and other information sent via computer to the Oklahoma City facility, where it can be

evaluated and a treatment regimen formulated.

"The Department of Family Medicine at the OU Health Sciences Center has an important mission, and that is to train primary care practitioners for deployment in the state's rural areas," he said. "There are many underserved rural areas in Oklahoma and we have needed a new building to train the very best primary care providers we can. For the past several years, the department has dealt with a severe lack of space. The addition of the Family Medicine Center will allow the department to continue its tradition of service, but in a much more efficient manner."

"This center solidifies our commitment to primary care for all Oklahomans and rural health care for the underserved populations of our state," he added. "It is an exciting beginning," Stein said.

Dedication day events included demonstrations of the Oklahoma Telemedicine Network and the new state-of-the-art electronic medical records system installed at the center, a luncheon, tours of the facility, and a reception honoring Oklahoma legislators.

For more information about the center, call 271-2323. J

## Call for Resolutions

All resolutions to be presented to the Oklahoma State Medical Association House of Delegates Annual Meeting must be received in the OSMA executive offices no later than thirty (30) days prior to the meeting. This year's meeting will be April 7-9, 1995, at the Marriott Hotel in Oklahoma. County medical societies or individuals wishing to submit resolutions should mail them to OSMA, 601 Northwest Expressway, Oklahoma City, OK 73118. Should you need assistance in drafting such resolutions, please contact the executive offices.

**Resolutions must be submitted on or before March 7, 1995**

## New building enhances OUHSC's commitment to rural health care

The January grand opening of the University of Oklahoma Health Sciences Center's new Family Medicine Center in Oklahoma City is expected to enhance the university's effort to improve the quality of rural health care and increase the numbers of rurally-based physicians within the state.

"With Oklahoma's great need for rural practitioners, the medical college could hardly ignore that family physicians by and large would be the ones to fill that need, and this building will greatly assist us in fulfilling that mission," said Dr. Jay H. Stein, OUHSC senior vice president and provost.

"In fact," he added, "an article this fall in the journal *Family Medicine* recognized that family physicians are the only physicians to distribute themselves geographically in accordance with the U.S. population. We have long recognized this, and have tailored many of our

initiatives accordingly."

The statistics show the success of these initiatives: Of the OU Department of Family Medicine's 255 total family practice residency graduates, 156 have stayed in Oklahoma, and 28% have elected to practice in rural areas—a number substantially higher than the national average, added Dr. Steven Crawford, vice chairman of the OUHSC's Department of Family Medicine and president of the Oklahoma Academy of Family Physicians (OAFP).

This statistic is at least partly the result of several pro-active actions taken by the department, including a "Future Physicians of Oklahoma" program co-sponsored by the OAFP's philanthropic arm, the Family Health Foundation of Oklahoma. The Future Physicians program introduces first-year medical students to the primary care medicine areas of family medicine, internal

medicine, and pediatrics through six- to 10-week summertime stints at rural hospitals and clinics.

"People may believe that most medical students would rather pursue high-paying specialties instead of practicing primary care medicine in rural Oklahoma. That's not necessarily true," said Dr. James Brand, FPO coordinator. "Students want to go out and spend time in rural communities to acquaint themselves with the lifestyle of a primary care doctor, but hospitals and communities need to cultivate those interests. By exposing these students to primary care early in their education, we hope to help them realize that medicine doesn't always have to mean practicing in a high-rise, multi-specialty clinic in the midst of half a million people."

Other departmental initiatives include:

- A fourth-year preceptorship in



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## Rural health care (continued)

which all College of Medicine students are required to spend one month at a rural hospital or clinic site.

• A third-year clerkship, or "rotation," in family medicine, instituted in 1989. "This course is particularly critical, because it's in that third year of medical school that most students select their specialty," Crawford said. "We worked hard to get the family medicine rotation included in the college's curriculum—this action greatly enhanced the prestige of family medicine, and the students love it."

• A "Seven Days in August" program sponsored by the university and the OAFP, which allows students who have been selected but have not yet entered medical school to spend a week observing family physicians in a clinical setting.

Adding to the increased attractiveness of rural practice is the prospect of access to urban expertise via "telemedicine," a high-speed electronic network

which directly connects rural hospitals and clinics across Oklahoma.

By using a simple personal computer and technology from the Oklahoma Telemedicine Network (OTN), rural physicians can transmit information such as patients' medical histories, X-rays, medical images, sound, and documents to other rural, regional, and tertiary hospitals on the network for evaluation, Stein said. Turnaround time on test results for these rural patients will occur within the hour, rather than the current norm of three to eight days, while trauma victims will have the benefit of urban-centered expertise immediately.

The network, the largest of its kind in the nation, is being implemented by the Oklahoma Center for Telemedicine, housed at the OU Health Sciences Center campus in Oklahoma City.

"In addition to improving services for rural patients, telemedicine also allows a physician to feel more comfortable in a rural area," Crawford said.

"Often these physicians are the sole doctor around for quite some distance.

The OTN allows for formal and informal consultation with colleagues on a regular basis, so these rural physicians don't feel as professionally isolated.

With the new Family Medicine Center in place, Crawford said the OU Department of Family Medicine will spend the next few years expanding its base of rural health training sites for medical residents. The 25-year-old OUHSC family medicine residency was one of the first four such residencies ever established in the U.S., and its old clinic was the first facility built in the country dedicated solely to the education of family practitioners, he noted.

"Having this new Family Medicine Center is obviously a great asset as far as improving training sites and laboratory space, but the overall message also is important," he added. "The existence of this center tells our students that the university values family medicine and will continue to place a high priority on primary care."

## PLICO announces schedule for its statewide loss prevention seminars

The following is the list of 1995 PLICO Loss Prevention Seminars. While these seminars are designed specifically for physicians, they may be attended for credit by PAs, RNs, LPNs, and other allied health care personnel.

Seminar attendance is mandatory at least once every three years for PLICO-insured physicians. Those who last attended in 1992, therefore, must attend one of these seminars in order to maintain their insurance coverage. Physicians are urged to register and attend early in the year, while their schedules—and the seminars—still have space available. For details on registration, call Debbie Thurmond at OSMA headquarters, 405-843-9571 or 1-800-522-9452.

Feb. 9, Thurs. .... Lawton ..... 6-9 pm  
Howard Johnsons  
1125 E. Gore Blvd.

Feb. 16, Thurs. .... Enid ..... 6-9 pm  
Best Western  
2818 S. Van Buren

Feb. 23, Thurs. .... McAlester ..... 6-9 pm  
Holiday Inn  
US Hwy 69 Bypass S.

Mar. 8, Wed. .... Bartlesville ..... 7-10 pm  
Hillcrest Country Club  
1901 Price Road  
Washington-Nowata  
County Medical Society

Mar. 11, Sat. .... Oklahoma City ..... 1-4 pm  
Credentialing  
Holiday Inn West  
801 S. Meridian

Mar. 14, Tues. .... Tulsa ..... 6-9 pm  
Southern Hills Marriott  
1902 E. 71st Street, S.

Mar. 23, Thurs. ... Elk City ..... 6-9 pm  
Holiday Inn  
I-40/Hwy 6

Apr. 8, Sat. .... Oklahoma City ..... 8 am-Noon  
Marriott  
(OSMA Annual Meeting)  
3233 N.W. Expressway  
Oklahoma State  
Anesthesiology Society

(continued)



## HEALTH DEPARTMENT

### Department reports latest figures on AIDS and HIV cases in Oklahoma

The cumulative reported cases of AIDS in Oklahoma has now exceeded 2,000. As of August 31, 1994, the number of diagnosed AIDS cases had reached 2,098, with an additional 1,504 individuals confidentially testing seropositive for HIV (human immunodeficiency virus). As AIDS is a consequence of HIV infection, the HIV/STD Service maintains constant surveillance and pays particular attention to trends in HIV incidence in order to identify those at higher risk for infection and target prevention efforts accordingly.

The behaviors which still reflect high risk for HIV transmission include men who have sex with men (MSM), injection drug use (IDU), and multiple heterosexual partners. MSM accounts for 52% of the reported HIV infections currently, IDU is 10%, and those engaging

in both of these behaviors add another 13%. Heterosexual contact is the indicated mode of transmission in additional 9% of the reported totals.

In examining the incidence of HIV in a racial/ethnic context, rates per 100,000 population are more meaningful for comparison than total numbers. For 1993, the last year with complete data, the rate was highest for African Americans at 20 per 100,000, which is four times that of Caucasians or American Indians, each with a rate of 5. The Hispanic rate is the second highest at 15, and the Asian Americans reflect the lowest rate at 3 per 100,000.

An overall observation of Oklahoma's total reported HIV positive cases, by gender, reveals that 13% are female, 87% are male. In reviewing cases by age category, 44% are in the age range of 20 to 29 years old and 38% are 30 to 39. However, it is extremely important to keep in mind that all of these select-

ed demographics are simplistic in nature and provide only a very general picture of the state's HIV/AIDS epidemic.

Factors such as age, race/ethnicity, and social conditions must be examined in the context of the behaviors that place individuals at higher risk of infection. Therefore, in order to appreciate the problem in Oklahoma, the incidence of HIV needs to be evaluated from a number of different perspectives. This is essential for sound prevention planning, as no segment of society is completely isolated.

Throughout the end of August, 55 of Oklahoma's 77 counties had reported more than two cases of either AIDS or HIV. Although Oklahoma and Tulsa counties still report the largest case numbers, the fact that 71% of Oklahoma's counties have identified significant numbers of infection indicates the need for awareness and appropriate efforts throughout the state.



### Loss prevention seminars (continued)

Apr. 8, Sat. ....	Oklahoma City ..... 1:30 -4:30 pm	Marriott (OSMA Annual Meeting) 3233 N.W. Expressway State Surgical Association	Apr. 27, Thurs. ...	Ardmore ..... 6-9 pm	Lake Murray State Lodge 3310 S. Lake Murray Dr.
Apr. 8, Sat. ....	Oklahoma City ..... 1:30 -4:30 pm	Marriott (OSMA Annual Meeting) 3233 N.W. Expressway State Orthopaedic Society	May 11, Thurs. ...	Woodward ..... 6-9 pm	Northwest Inn Hwy 270 South
Apr. 9, Sun. ....	Oklahoma City ..... 1:30 -4:30 pm	Waterford Hotel 6300 Waterford Blvd. State Psychiatric Association	July 22, Sat. ....	Tulsa ..... 1-4 pm	Credentialing Southern Hills Marriott 1902 E. 71st Street, S.
Apr. 13, Thurs. ...	Muskogee ..... 6-9 pm	Ramada Inn 800 S. 32nd	Sept. 9, Sat. ....	Tulsa ..... 1:30-4:30 pm	Saint Francis Hospital 6161 S. Yale Avenue Oklahoma Chapter, American Academy of Pediatrics
			Sept. 28, Thurs. ..	Tulsa ..... 6-9 pm	Southern Hills Marriott 1902 E. 71st Street, S.
			Oct. 12, Thurs. ....	Oklahoma City ..... 6-9 pm	Holiday Inn West 801 S. Meridian

## WORTH REPEATING

### From the Board Secretary

Gerald C. Zumwalt, MD

*The following was the lead article in the Fall 1994 Issues and Answers, Vol. 5, No. 3, the newsletter of the Oklahoma State Board of Medical Licensure and Supervision.*

In the past two issues I have discussed types of cases involving doctors and other licensees who appear before the Board. At the time of hearing, evidence, pro and con, is presented to the assembly and heard according to provisions of the Oklahoma Open Meeting Act and Administrative Procedures Act.

Whenever a violation of the Medical Practice Act is proven before the Board, it is incumbent upon the members of the Board to determine proper discipline. Discipline should be related to the violation and should be consistent from case to case.

At least three factors must be considered by the staff in recommending and the Board in adopting and drafting a Final Order which lists the details of the discipline.

First and foremost is the protection of the public. This protection must involve consideration of possible physical, mental, emotional and financial harm to the public. It also must address not only past and present activities of the licensee but also future actions.

Part of the protection lies in the open public records on individual practitioners which may be viewed at the Board office in Oklahoma City. These records include the original application with the attendant certifications of pre-med, medical and post graduate training, letters of recommendation and evidence of physical and mental health. It also contains the original copy of any disciplinary Final Order and any formal Board Complaints and Citations.

Copies of Final Orders or any other part of the public (but not investigational) files may be obtained from the Board for a minimal charge.

The Board reports all adverse action on licenses to three groups—AMA, Federation of State Medical Boards and the National Practitioner Data Bank. Hopefully this dissemination of information will help prevent doctors (and other medical related professionals) licensed in several states from hopping about and continuing with abusive practice.

Second in achievable aims resulting from Board action is the rehabilitation of practitioners. This state has too much invested, both money and time, in these individuals to lose their abilities, if indeed the practitioner can be rehabilitated. Efforts range from requirement of continuing education or additional specified training and supervised practice to required affiliation with support groups following detoxification and treatment for alcohol and/or drug dependence.

Lastly, there is a punitive aspect to most disciplinary final orders since no discipline is possible unless there has been a breaking of the law. It may well be that this is merely part of

(continued)

### Directory defects detected...

Below are corrected or omitted entries reported to date for this year's 1995 Oklahoma State Medical Association Directory of Physicians.

Any additional corrections should be sent to Membership Coordinator Judy Lake at OSMA headquarters, 601 Northwest Expressway, Oklahoma City, OK 73118, so that information in the association's computer database can be updated. Corrections also will be published in the JOURNAL.

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## Worth Repeating *(continued)*

the protection of the public issue since punitive provisions should serve as a preventative against other practitioners performing similar violations of the Act.

In this regard the argument can be made that the Board should make more effort to publicize its disciplinary actions and indeed other Boards have disseminated all their adverse actions in varied degrees to the public. In Oklahoma this Board has sought to balance the public's need to know with the need to rehabilitate the practitioner.

At the danger of being accused of self-aggrandizement let me issue a few words of praise for members of the Board. They serve without recompense and expend a great deal of time, money, effort and emotion during the hearings. For this they are harangued by lawyers, pressured by peers, and pilloried by editorials in the State Medical Journal. And, if this Board should be abolished or weakened in its powers, it undoubtedly would be replaced by a Federal governing group probably consisting of attorneys and Ralph Nader clones. J

Reprinted by permission. Oklahoma State Board of Medical Licensure and Supervision. *Issues and Answers*, Fall 1994, Vol. 5, No. 3, pg. 1.

## DEATHS

### John Xavier Blender, MD 1915 - 1994

Okeene native John X. Blender, MD, of Bartlesville, died October 5, 1994. A general practitioner, Dr. Blender earned his medical degree at the University of Oklahoma School of Medicine in 1946, after completing an MS degree at the University of Michigan in Ann Arbor. His internship at Saint Anthony Hospital in Oklahoma City was followed by two years as a captain with the U.S. Army Medical Corps in Japan from 1947 to 1949. After the war, Dr. Blender returned to Oklahoma to establish a practice in Cherokee. He was named president of the Masonic Hospital medical staff and, in 1967, Alfalfa County Superintendent of Health. Dr. Blender also served several terms as a trustee on the Oklahoma State Medical Association's Board of Trustees. In 1977 he became the first recipient of the OSMA's A.H. Robins Community Service Award, now known as the Wyeth Ayerst Physician Award for Community Service. It is presented annually to the state physician who best exhibits local concern and service to his community.

### Mason Russell Lyons, MD 1915 - 1995

Mason R. Lyons, MD, a native of Kansas City, Mo., died January 6, 1995, in Tulsa. Dr. Lyons was graduated from the University of Oklahoma School of Medicine in 1940 and completed his internship and residency in Chicago. He then returned to Oklahoma and established a private practice in Apache in 1942. His career was interrupted from 1943 to 1945 when he served in the U.S. Army Medical Corps. After the

war he moved to Tulsa, where he practiced from 1946 to 1992. During those years he had a private practice, was director of the emergency room at Hillcrest Medical Center, and was Tulsa's city physician. He was a recipient of the Tulsa County Medical Society Auxiliary's Doctor of the Year Award and an OSMA Life Member.

### Robert M. Wienecke, MD 1930 - 1995

Oklahoma City psychiatrist Robert M. Wienecke, MD, died January 3, 1995, following an extended illness. Born in 1930, Dr. Wienecke was a 1956 graduate of the University of Oklahoma College of Medicine. J

## IN MEMORIAM

### 1994

Fannie Lou Leney Hayward, MD .....	January 2
Kirk Thornton Mosley, MD .....	January 3
Richard Charles Wade, MD .....	January 6
Austin Walsh Webb Haddox, MD .....	January 13
Earl Mathews Woodson, MD .....	February 20
Tom Lamar Johnson, MD .....	March 5
Orville Main Rippey, MD .....	March 11
Minor Elliott Gordon, MD .....	March 14
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Max A. Glaze, MD .....	April 29
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Carter William Mathews, MD .....	June 3
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Jon Meyer Chenette, MD .....	August 4
Beryl Drew Henwood, MD .....	August 14
Jess Duval Herrmann, MD .....	August 16
Jose J. Guijarro, MD .....	November 11
Haven Winslow Mankin, MD .....	November 14
Dalton Blue McInnis, MD .....	November 26

### 1995

Robert M. Wienecke, MD .....	January 3
Mason Russell Lyons, MD .....	January 6

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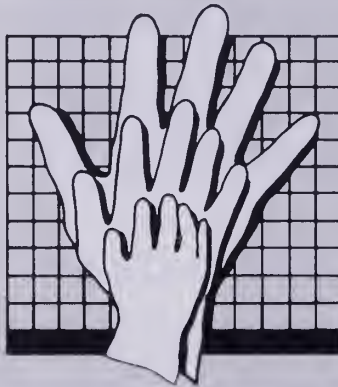
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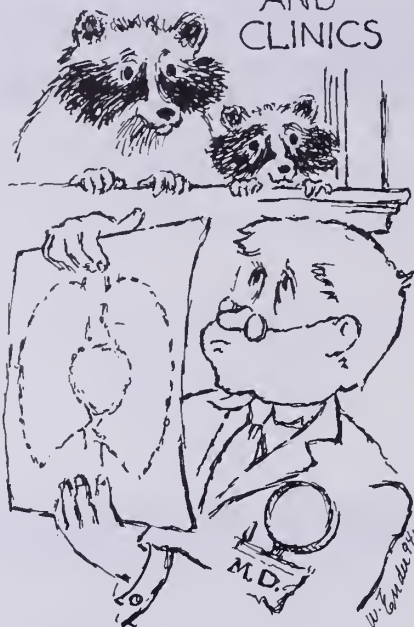
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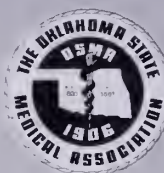
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All manuscripts should approximate the style adopted by the American Medical Association as illustrated in *JAMA* and detailed in the AMA's *Manual of Style*. An abstract of 150 words or less should accompany each paper and should state the exact question considered, the key points of methodology and success of execution, the key findings, and the conclusions directly supported by these findings. Footnotes, bibliographies, and legends for illustrations should be on separate sheets. References are to be listed in the order of their appearance in the article, and in the style used in both the JOURNAL and in *JAMA* (author, title, publication, year, volume number, pages). Also, include a one- or two-sentence biographical note about each author describing his or her current activity or affiliation as it relates to the article.

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## AMA-ERF: Still 100% Deductible

Last spring at the state convention at Shangri-La, AMA-ERF presented our medical school with a check for \$30,620.28, which included the Tulsa branch.

The Oklahoma State Medical Association Alliance works all year on its fund raiser. Primarily, all the counties participate in a Sharing Card event on a county, state, or national level. This is the main source of our contributions.

Funds are needed by medical schools now more than ever. It's disheartening to hear of so many medical schools operating with deficit funds month after month. Also, medical students are facing ever-increasing tuition and expenses.

The alliance has chosen an innovative new fund raiser this year—"Instruments for Life"—a collection of familiar instruments that physicians and medical students work with every day. These can be purchased at wholesale prices through an AMA-ERF contribution.

Still unique is that 100% of each contribution is given to the designated medical school; there are no funds deducted for administrative costs. This is probably the single most outstanding feature of AMA-ERF contribution. There are very few other organizations that can claim 100% deduction for their contributors.

You pick the medical school that will receive your contribution and either of two funds where the money will go: the Medical School Excellence Fund, which provides grants; or

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♦ **Promotes visibility**—Every contribution is a commitment to leaving a legacy of quality health and medical care for future generations. The large amounts donated by physicians and spouses show the medical community is committed to quality health care.

At our state convention in April '95, we will have a Western Dance where there will be some "fun shopping" again for our physicians and spouses. The proceeds from a silent auction of over 30 baskets will benefit the AMA-ERF. Last year these proceeds exceeded \$2,500, with a \$350 contribution from our golfers.

Thanks again for your contributions.



## THE LAST WORD

■ **Oklahoma Lieutenant Governor Mary Fallin, a Republican,** has been selected by Governor Frank Keating to be a principal advisor on health issues during his administration. Fallin, a former state legislator, had been recognized by her colleagues in the House of Representatives as an authority on medical issues. A conservative and the wife of a dentist, she has an insider's view and understanding of complex medical issues. It is anticipated that she will be dealing with an unusually large number of medical bills during this legislative session.

■ **Medicine Day at the Capitol is back and will dawn** March 15, 1995. Mark your calendars now and plan to participate. The program is expected to feature Gov. Frank Keating, Lt. Gov. Mary Fallin, and speakers from AMPAC's Washington office. Don't miss this opportunity to meet your legislators personally and see how things are done in the State House.

■ **Physicians are reminded to report suspected "professional patients"** to the Oklahoma Bureau of Narcotics and Dangerous Drugs (OBND), especially if the patient is seeking Schedule II drugs. The patient's name and driver's license number, if known, should be reported to the OBND at 405-521-2885. Such reporting does not violate medical ethics or the confidentiality of the doctor-patient relationship. It will provide data for the state's computerized Schedule II abuse reduction program, OSTAR, in use since 1991. OSTAR helps OBND track professional patients as well as identify aberrant prescribers and dispensers.

■ **The 45th Annual Postgraduate Symposium on Anesthesiology,** sponsored by the University of Kansas Medical Center's Department of Anesthesiology, is scheduled for April 7-9, 1995. This year's site is the Ritz-Carlton Hotel, Kansas City, Mo. Both anesthesiologists and nurse anesthetists are invited, with the fees being \$400 and \$250, respectively. The program has been approved for 16.5 AMA Category 1 hours of credit. For details contact the Office of Continuing Medical Education, University of Kansas Medical Center, 3901 Rainbow Blvd., Kansas City, KS 66160-7108, 913-588-4488.

■ **Jerry Nida, MD, interim director at the state health department** since the death of Tom Peace, was officially confirmed as commissioner of health on December 6. Dr. Nida, a pediatrician, has been a health department officer since 1977. He oversees some 2,000 medical doctors employed by the health department.

■ **The AMA Leadership Conference in Washington, D.C.,** has been rescheduled to accommodate changes in the Congressional schedule. The meeting is now set to convene on Sunday, March 26th and conclude Wednesday, March 29th, at the Washington Hilton Hotel. Doctors still needing offi-

cial programs or other meeting information should call Susan Meeks or Bobbie Brown at OSMA headquarters, 405-843-9571 or 1-800-522-9452.

■ **If you haven't yet, reserve the dates April 7-9 on your calendar.** The OSMA House of Delegates holds its 1995 Annual Meeting then, at the Marriott Hotel in Oklahoma City, and any member of the OSMA may attend. If you want to see how the association sets policy, how your officers and AMA delegates are actually elected, and how issues are decided, this will be an excellent opportunity to do so.

■ **Time is running out! Resolutions to be considered by** the OSMA House of Delegates at their upcoming Annual Meeting must arrive at OSMA headquarters by March 7, 1995. Any member, county medical society, or specialty society may submit resolutions for consideration by the house.

■ **Promotional kits for PROklahoma Care—containing** a prospectus, videotape, subscription agreement, and participating physician agreement—have been mailed and all OSMA members should have received one by now. If you have not, call the OSMA, 1-800-522-9452 or 405-843-9571 and one will be sent to you immediately.

■ **Volunteers are still needed for the Doctor of the Day** program at the state capitol, particularly for dates in April and May. Don't miss this opportunity to visit the state capitol for a day and be introduced personally by your legislators to their colleagues in the House and Senate chambers. A Nurse of the Day will be on hand to assist you at the medical station. Pharmaceuticals and other supplies are donated to the station, but you may wish to bring one of your own prescription pads in case it is needed. To volunteer, call Bobbie Brown at OSMA headquarters.

■ **Make your reservations early for the National Rural Health Association's 1995 Annual National Conference.** The conference will be held May 17-20, 1995, at the Hyatt Regency Atlanta in Atlanta, Ga. Reservations received after April 17, 1995, will be accepted on a space available basis only. Room rates are: Single, \$115; Double, \$135. Call the Hyatt Regency Atlanta at (404) 577-1234 to reserve your room.

■ **Several individuals have inquired as to the JOURNAL's** "failure" to bring home a Sandoz Medical Journalism Award in recent years (normally announced about this time and presented at the OSMA Annual Meeting). The fact is that Craig Burrell, MD, the driving force behind the awards for many years, retired from his position with Sandoz on December 31, 1992. It was hoped that after a brief hiatus, the competition would resume, but that has not been the case. The Sandoz competition, one of medical journalism's best barometers, regrettably is no more. J



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# JOURNAL

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**ABOUT THE COVER**

The Bradford pear, with its spectacular white spring blossoms, rivals the state's indigenous redbud tree for popularity in urban areas.

Photograph by Robert M. Smith, MD, Oklahoma City. Art direction by Graphic Arts Center, Oklahoma City.







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Please continue to contact the doctors  
at their current offices until our  
physical move later this year



## Tides Always Turn

In a "first" for Oklahoma politics, a governor has been elected who included tort reform in a successful campaign platform. Also, a fundamental sea change in political tides is flowing through our nation and state. Thus the time has come again to introduce tort reform issues into the Legislature and to "level the playing field" that has long been badly tilted to favor plaintiffs' attorneys.

There are several tort law practices and statutes in Oklahoma that should be changed to restore equity and impartiality. For example:

**Punitive damages**, when awarded, now are paid to the plaintiff and to the plaintiff's attorney, even though the successful plaintiff's economic loss was recouped before the punitive damages were awarded. The legal purpose of assessing punitive damages is to punish the guilty defendant for outrageous or unconscionable behavior, but all other punishment money is paid to the state or federal treasuries as "fines." To be just, we should change our tort law to pay these punitive damage award fines to the state treasury instead of to the plaintiff who has already been "made whole" by the economic damages award. The plaintiff "double dips" when also paid the punitive damages.

**"Pain and suffering"** awards should be capped in amount and barred after a three-year statute of limitations. Fair trials become impossible a few years after injury, as medical progress rapidly alters the criteria of negligence, and witnesses' memories become unreliable. Also, it is a fact of life that economic damages can be figured with

reasonable certainty as to the amount but "pain and suffering" damages cannot be so calculated and should be paid—when awarded—with a standardized, symbolic amount. The use of a uniform "pain and suffering" award would end the many astronomical "sympathy" awards and improve the fairness of the cases that justify an award for pain.

An **"affidavit of malpractice"** by a knowledgeable physician should be required for each malpractice suit filing. Currently, the plaintiff attorney can file suit first and seek the medical witnesses later. Consequently, many more malpractice suits are filed than are found to have a reasonable basis when the investigation is completed. Yet every filing generates significant defense costs and physician distress. If Oklahoma statutes required a physician's certificate that malpractice may have occurred, many non-meritorious filings would be prevented, and liability insurance premiums would be reduced.

The time is ripe for the medical profession to join forces with other citizen groups interested in restoring impartiality to our liability lawsuit statutes. With a governor who is interested in tort reform in office, a forceful and eloquent effort should be made to bring these and other tort reforms to a decisive vote in the legislature.

*Ray V. McIntyre, M.D.*

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- TOPIC:** Traumatic Brain Injury/Treatment and Reentry Issues
- SPEAKER:** Dr. Joan Gerring, M.D., Assistant Professor of Psychiatry and Pediatrics at John Hopkins University School of Medicine and Medical Director of Kennedy Krieger Institute, Baltimore, Maryland. Dr. Gerring has published several books and articles on the topic of traumatic brain injury with specific emphasis upon reentry issues. She is currently conducting NIH funded research following children and young adults for two years post injury.
- AGENDA:**
- Friday** Overview of cognitive rehabilitation in the acute (rehabilitation hospital) and post acute (school) setting.  
8:30 - 10:30
- Friday** Aspects of her own research as she discusses medical aspects of head injury, its treatment and outcome.  
1:30 - 3:30
- Saturday** Forum discussion, with panel members to include Dr. Gerring, a patient going through the reentry process (getting back to school), parents, school SLP, rehabilitation facility SLP.  
9:00 - 11:00

— Registration \$90 at the door —



## I'm Third

Dear Friends:

I first want to thank each of you for your prayers, thoughts, and words of thanks and encouragement during this past year. The year has been fruitful and tumultuous at the same time. I'm not sure how much Zantac I've consumed this past year, but the amount has been significant. When working for physicians, the environment can be very stressful. If you don't believe me, talk to your office staff, your hospital administrator, or other colleagues.



Several good and positive events have taken place this year of which we can all be proud. First and foremost has been the formation of PROklahoma Care and the Oklahoma Physicians Network. As of this writing (2/20/95), we are in the process of collecting checks. We have several options open to us to reach our capitalization requirement and I am confident that we will be successful in this venture. The big boys and individuals who have already crawled into bed with other entities do not want us to succeed and are actively campaigning against us. This is the "last boat out of the harbor" that will allow us to maintain *control* of our patients and our practice of medicine. Hospitals and insurance companies will have us right where they want us if this fails. They are desirous of making us subservient and dependent upon them. Why would any physician be willing to give up the personal freedom to deliver health care to whomever he or she chooses and in the manner he or she knows is in the patient's best interests? When you sell your practice, it is like selling your soul. Joint ventures with outside entrepreneurs are almost as bad; you still may have some say in those arrangements at the outset, but watch out. As time goes by, others will start reducing your reimbursement rates to maintain their cash flow. I've never heard any insurance executive or administrator lament the fact that their doctors were underpaid, have you? All I can say is that if you haven't joined PROklahoma and OPN, do so immediately.

The public spoke during the election of 1994. I hope all of us, not just the politicians, heard the message. The message was for

change, accountability, and responsibility on the part of each and every individual. To that end, we physicians have an incredible responsibility to the public to safeguard their health care delivery system. Yes, there will be reform, but we must work ever so much harder to see that the reform effort is not damaging to any citizen, does not restrict any individual's freedom of choice—physician's or patient's—and does not compromise on quality. I firmly believe that our AMA has done a good job in this arena and will continue to do so on our behalf.

Regarding our relationship with the AMA, we are, as you know, a unified state. That means we pay dues to our county society, our OSMA, and our AMA—and it is *our* AMA. Unification has been an issue hotly debated almost every year in the House of Delegates since I can remember. There is always a faction of the membership that wants to deunify. Speaking as your president, I can say deunification makes no sense. The benefits we receive far outweigh the disadvantages. We are at a point in time when unity means more than it ever has in the past. Unity is crucial to PROklahoma and OPN. Unity is crucial to OSMA. Unity is crucial to the AMA. Without unity, we will become subject to all of those who are desirous of controlling us. Unity gives us more clout than 34 other states at the AMA level. Unity sends AMA officers and board members to our state on a routine basis. Dr. Nancy Dickey of the AMA board will attend our Annual Meeting. Dr. McAfee attended our Annual Meeting last year and spent a weekend with us in January. When we call for assistance or to discuss issues with the AMA, our unity gives us a clear voice that is heard over most other states. I'm not about to tell you that the AMA is perfect and not without faults. But I will say that the AMA is the most painfully democratic organization with which I am associated. When you are critical of the AMA, you are being critical of your colleagues and yourself, because you are the AMA. Deunification will not allow us to strengthen the AMA; it will only weaken us in all that we do. Your dues dollars are probably one of the best yearly investments that you make.

Your OSMA is also undergoing change. Your Board of Trustees and its Executive Committee have spent two difficult years putting into place mechanisms that will strengthen your association and the results of those efforts will

be ready for approval by the House of Delegates at the Annual Meeting. Yes, we have heard the message and we are going to make OSMA more accountable and responsible to you, the members. Change is difficult and hard on many people, but change is inevitable. There have been internal control changes and the physical plant also has undergone some renovation which has been needed for some time.

Perhaps the biggest and potentially most catastrophic change that I have witnessed over the past few years has been the way in which physicians deal with each other. There has been not only a socioeconomic change in our society, but a psychosocial change as well. Do not interpret my words as being critical in any way of any one individual or group; it is just a fact that the clashing of ideological groups within our profession causes conflict. Conflict brings about anxiety, tension, and eventually change as we work through the problems. And, as I said before, change is difficult and hard on many people. If you will take to heart the following axioms, the days ahead may go a little smoother:

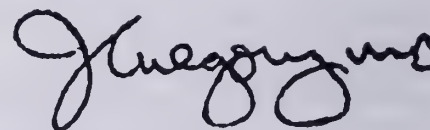
RESPECT EACH OTHER. SHARE RESPONSIBILITY.  
CRITIQUE ONLY IDEAS, NOT PEOPLE. KEEP AN  
OPEN MIND. QUESTION AND PARTICIPATE.  
ATTEND ALL MEETINGS. LISTEN INTENTLY.  
SPEAK CONSTRUCTIVELY. CONTINUALLY  
UPGRADE YOUR EDUCATION, BOTH IN YOUR  
PROFESSION AND IN THE WORLD AROUND YOU.

It has been my pleasure to serve you as your president during the past year. My words

in this and previous pages have always come from my heart and have in no way intended to harm, insult, or attack any of you personally. But part of the problem with this office is that I have to see the very ugly side of so many of our colleagues. That, my friends, is painful. The things that some of us do to our patients, our colleagues, and even ourselves is hard to accept, let alone understand. You must always remember that I am your best friend. I fear that we are entering into an era of "me first" thinking, that we are losing the old concept of others, God, then Me—the old "I'm third" philosophy. Believe me, there is nothing good about "me first" thinking. We need each other; we need to take care of each other; we need to look out for each other's best interests. It is such a trite phrase, but oh, so true: We have met the enemy, and he is us. If I could leave you with just one thought, it would be that regardless of what happens, we are all in this together, and there is great comfort and strength in our togetherness.

May God bless your patients, you and your families, and our OSMA.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Gregory". The signature is fluid and cursive, with a large loop at the end.

Jay A. Gregory, MD, FACS

## Liver Transplantation for HBV-Related Disease Under Immunosuppression with Tacrolimus: An Experience with 78 Consecutive Cases

Oscar Bronsther, MD; Sadik Ersoz, MD; Mehmet Tugcu, MD; Bijan Egtesad, MD; Ahmet Gurakar, MD; David H. Van Thiel, MD

Hepatitis B viral liver disease (HBVLD) is a major worldwide health problem. It is estimated over 300 million people have had hepatitis B virus infection and that one-third of these have chronic HBVLD.

Little effective therapy exists for HBVLD even though high dose interferon (IFN) has been advocated. For those who either are untreated or do not respond to IFN, HBVLD is steadily progressive and orthotopic liver transplantation (OLTx) is the only available therapy.

Until quite recently, all OLTx recipients received cyclosporine (CyA) and prednisone. The consequence of OLTx for HBV disease in individuals immunosuppressed with tacrolimus has not previously been reported.

A total of 78 consecutive patients with HBV-related liver diseases who were transplanted between January 1, 1990, and December 31, 1991, and treated with tacrolimus were studied. The clinical records of these patients were reviewed retrospectively. HBV disease recurrence was documented with serologic and histologic methods.

As of April 1, 1993, 57 of 78 (73%) of the patients were still alive. Thirty-one of the alive patients have documented HBV recurrence. Eighteen of these 31 patients, however, have

normal liver function. With a median follow-up of 24 months, 8 patients (10.9%) have died of recurrent HBVLD. Seven of 8 patients, who preoperatively were HBeAg+, developed recurrence and 4 of these patients have already died of recurrence. Patients who were HBsAg+ rarely recurred (1 of 16 patients). The use of HBIG did not prevent recurrence.

Overall, however, survival in this group has been excellent. While certain subgroups of hepatitis B infected individuals have a degraded prognosis, hepatitis B-infected individuals with appropriate serologies should have access to OLTx.

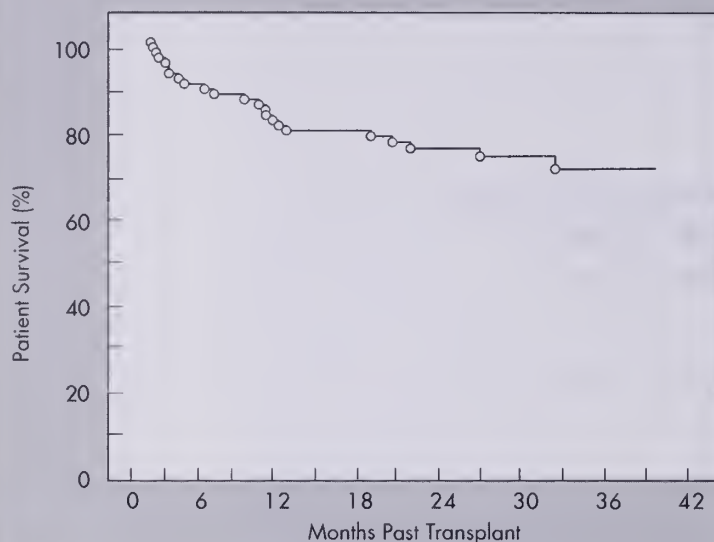
**H**epatitis B viral liver disease (HBVLD) is a major world wide health problem. It is estimated that over 300 million people have had hepatitis B virus infection and that one third of these have chronic HBVLD.<sup>1</sup>

Little effective therapy exists for HBVLD. For those with early chronic liver disease uncomplicated by decompensated cirrhosis or evidence of cirrhotic complications (ascites, esophageal and/or gastric varices, hepatic encephalopathy, or hypersplenism manifested by leukopenia and/or thrombocytopenia), high-dose interferon (IFN) therapy (5 MU daily or 10 MU 3x week) has been advocated.<sup>2,3</sup> The response rate to immune enhancement with IFN therapy has been rather unsatisfactory, with less than 20% of cases responding with clearance of HBeAg and HBV-DNA.<sup>3</sup> For those who either are untreated or do not respond to IFN therapy, HBVLD is steadily progressive and

From the Division of Transplantation, Department of Surgery, University of Pittsburgh School of Medicine, Pittsburgh, Pa., and the Oklahoma Transplantation Institute, Baptist Medical Center of Oklahoma, Oklahoma City.

Direct correspondence to David H. Van Thiel, MD, Oklahoma Transplant Institute, Baptist Medical Center of Oklahoma, 3300 Northwest Expressway, Oklahoma City, Oklahoma 73112.



**Table 1. Actuarial Patient Survival in HBV Liver Transplant Recipients****Table 2. Cause and Timing of Death in the Population Studied**

Early Mortality (less than 90 days)	8 patients	(10.2%)
Recurrence of HBV infection + ESLD	8	(10.2%)
Tumor Recurrence	4	(5.2%)
Intracerebral Hemorrhage	1	(1.3%)
<b>Total</b>	<b>21</b>	<b>(26.9%)</b>

liver transplantation has been the only available therapy.

With liver transplantation, an entirely different approach is utilized. Rather than up-regulation of the immune response with alpha-IFN, immune suppression is required to prevent allograft rejection. Immune suppression, particularly with glucocorticoids, has been associated with enhanced viral replication. The HBV genome has a glucocorticoid binding site that, when activated, accelerates HBV genome replication.

Until quite recently, all liver transplant recipients have been chronically immune suppressed with a combination of cyclosporine (CyA) and a glucocorticoid, usually prednisone (P). When allograft rejection episodes have occurred, enhanced immune suppression consisting of a steroid bolus (1 g methylprednisolone) and/or a 5-day steroid reycle is administered (oral prednisolone beginning at a dose of 200 mg that

is reduced by 40 mg/day). With the introduction of tacrolimus, greater than 50% of orthotopic liver transplant recipients are infection free, and nearly half of the liver transplant recipients are steroid free by three months after OLTx.<sup>4</sup> Those who continue to require steroids while receiving tacrolimus typically require less than half the baseline dose required by those on a CyA-based immunosuppression regimen. The consequence of OLTx for HBV disease in individuals immunosuppressed with tacrolimus has not previously been reported.

### Methods

**Subjects.**—A total of 78 consecutive patients with HBV-related liver disease who were transplanted between January 1, 1990, and December 31, 1991, under tacrolimus immunosuppression were studied. They consisted of 58 males and 20 females, with an age range of 18 to 71 years with a mean value of 44 years.

The clinical records of these 78 patients were reviewed retrospectively. These records consisted of all the preoperative clinic and hospital records, the operative and peri-operative hospital records, and all postoperative clinic and hospital records until April 1, 1993.

**Immune Suppression.**—All patients were immunosuppressed with tacrolimus.

The tacrolimus was started postoperatively in the recovery room with a 24-hour intravenous infusion of tacrolimus at a dose of 0.10 mg/kg/day. In addition, prednisolone at a dose of 20 mg/day was started postoperatively and continued for 30 days, after which the doses were steadily tapered.

**Rejection Recognition and Treatment.**—All unexplained increases in liver enzymes or unexplained increases in the serum bilirubin level were considered to represent allograft rejection. Most were confirmed with a liver biopsy. The histologic requirements for a diagnosis of acute cellular rejection were the presence of a predominantly mononuclear portal inflammatory infiltrate occasionally associated with eosinophils that was centered about the bile ducts. The bile ducts must manifest evidence of cellular injury with invasion of the bile duct epithelium with lymphoid cells. Moreover, the presence of an endotheliitis of the hepatic artery, and portal and terminal hepatic veins is typically present.

Most rejection episodes were treated with an intravenous 1 g bolus of methylprednisolone and a 25% increase in their dose of tacrolimus. A minority received a steroid reycle. In cases where the response to steroids was not immediate, OKT3 (ortho monoclonal antibody directed

**Table 3. Post-Transplant Trends in Baseline Immunosuppression**

	Months After Transplantation			
	3	6	12	24
Percent Steroid-Free	42%	60%	69%	79%
Tacrolimus Dose (mg/day)				
Mean (sd)	13.3 (6.0)	11.3 (5.6)	8.1 (4.9)	5.9 (4.2)
Tacrolimus Levels (ng%)				
Mean (sd)	0.91 (0.51)	0.96 (0.64)	0.93 (0.60)	0.83 (0.53)

against CD3 on T lymphocytes) was administered at a dose of 5-10 mg IV for 3 to 5 days.

**HBV Disease Recurrence.**—HBV disease recurrence was documented with serologic and histopathologic methods. Serologic recurrence was documented by the presence of HBsAg positivity, typically with HBeAg positivity and occasionally with HBV-DNA determinations during the post-transplant period.

Histologic disease recurrence was documented by the presence of ground glass cells in a liver biopsy that stained positive for HBsAg and HBeAg using immunoperoxidase technique and showed evidence of a panlobular parenchymal-based mononuclear inflammatory infiltrate and occasional apoptotic hepatocytes.

**HBV Prophylaxis.**—Hepatitis B immune globulin (HBIG) was administered as prophylaxis against HBV recurrence in less than half of the cases. When utilized, 100 cc HBIG was infused in the operating room during the anhepatic phase of the transplant operation, with a second dose being given on admission to the recovery room. This was followed by a daily infusion of HBIG for each of the next six days. Thereafter, 100 cc HBIG was infused monthly for a total of 6 months of treatment.

**Statistical Analysis.**—All values are reported as mean  $\pm$  SEM. Survival was determined by the method of Kaplan and Meir. Statistical comparisons between groups were performed by the student's T test. A p value  $<0.05$  was considered to be significant.

## Results

**Patient Survival.**—At the time of the last follow-up, April 1, 1993, 57 of 78 (73.1%) patients were still alive (Table 1).

The causes of death for the 21 patients who died in this series is shown in Table 2. Ten percent died in the early post-transplant period of a combination of events including primary graft

failure, technical error, and sepsis. Thirteen patients died 3 months or more after successful OLTx. The majority of these died as a result of recurrent HBVLD (8 of 13 = 61.5%). Four of the deaths from recurrent HBVLD occurred in patients who were HBeAg+ prior to OLTx.

**Maintenance Immunosuppression and Treatment of Rejection.**—Tacrolimus doses, tacrolimus levels, and steroid doses were followed at 3-, 6-, 12-, and 24-month intervals. The tendency was towards a reduction in tacrolimus doses and levels in patients with and without evidence of HBV recurrence in the transplanted liver. At 3 months post-OLTx, 42% of the recipients were off steroids, and by 24 months post-OLTx, 79% of the surviving recipients were steroid-free (Table 3).

Twenty of the 78 cases (25.6%) experienced no episodes of liver allograft rejection. Seven of the 8 cases that died within 3 months of OLTx experienced at least one episode of rejection. Four of these 8 cases (50%) had more than one episode of allograft rejection. Of the 31 cases without recurrent HBVLD, 11 (35.5%) experienced no episodes of allograft rejection. Eight of the 20 patients (40%) experiencing an episode of allograft rejection had more than one such episode. Of the 39 patients with recurrent HBVLD, 8 (20.5%) experienced no episodes of allograft rejection. In contrast, 26 of the 31 (83.9%) patients with recurrent HBVLD who experienced an episode of allograft rejection had more than one such episode. Sixteen of these 39 patients had more than 3 episodes of allograft rejection that required the administration of additional immunosuppression (Table 4).

Seven patients required OKT3 to control their rejection. Two patients were switched from tacrolimus to CyA to control toxic reactions to tacrolimus.

**Method of Diagnosis of HBV Recurrence.**—HBV recurrent disease was documented in 39 of

Hepatitis B viral liver disease is one of the leading indications for orthotopic liver transplantation. However, many studies are now questioning the wisdom of transplanting patients with this disease.

**Table 4. Number of Rejection Episodes in the Various Groups of Patients Being Studied**

	Early Mortality Group	No Disease Recurrence Group	HBVLD Recurrence Group	Total (%)
1	3	12	5	20 (25.6)
2	3	4	10	17 (21.8)
3	1	3	9	13 (16.6)
4	—	1	4	5 (6.5)
5	—	—	1	1 (1.3)
6	—	—	2	2 (2.6)
Total				

**Table 5. Patients Pre-OLTxHBV Serological Status and Its Impact on Post OLTx HBV Recurrence**

	HBsAg+ HBeAg+	HBsAg+ HBeAb-	HBsAg+ HBeAb+	HBsAb+ HBeAb+
No. of patients with recurrence / No. of patients in each group	7/8	24/40	7/14	1/16
Percent (%)	87.5	60	50	6.25

**Table 6. Range and Mean Values for the Liver Injury Parameter of the Patients Studied (As of 4/1/93 or at time of death)**

	Alive Patients with No Evidence of HBV Recurrence (n=26)		Alive Patients with Recurrent HBVLD (n=31)		All Patients (Alive and Dead) with Recurrent HBVLD (n=39)	
	Range	Mean	Range	Mean	Range	Mean
T. Bili (.3-1.5 mg%)	0.6-3.8	1.3	0.9-7.1	1.8	0.9-15.3	3.1
SGOT (0-40 iu/l)	12-185	54	13-392	101	13-683	164
SGPT (0-40 iu/l)	14-241	71	22-306	114	22-867	193
AP (40-125 iu/l)	19-206	48	19-346	139	19-490	222
GGT (0-40 iu/l)	32-228	56	15-313	159	15-1487	316

70 cases surviving greater than 90 days after OLTx (56%). In 31 (79.5%) of these cases, the diagnosis of recurrent HBVLD was documented both by HBV serology and allograft histopathology. It was confirmed by serology alone in 3 (7.7%) and by histopathology alone in 5 (12.8%). Median follow-up was greater than 24 months and median time to HBV recurrence was 293 days post-OLTx (50 to 947 days).

#### HBV Recurrence as a Function of Pre-

**OLTx Serologies.**— When the pre-transplant HBV serologic pattern was used to characterize the liver graft recipients, HBVLD recurrence occurred in 38 of 62 (61.3%) who were HBsAg+ prior to OLTx but only 1 of 16 (6.3%) of those who were HBsAb negative but HBsAb+ and HBeAb+. When the HBsAg+ group was subdivided further, the recurrence rate for those who were HBeAg+ was 87.5%. In those who were HBeAg negative but HBeAb+, the disease recurrence rate



was 50%. For those with acute HBV disease, HBsAg+ but HBeAb negative, the recurrence rate was 60%. No statistical difference in disease recurrence rates exists between these various groups except for those who were HBsAb+ who had a significantly reduced recurrence rate compared to all other groups (Table 5). Interestingly, the long-term recurrence rate was not effected by the administration of HBIG. HBVLD recurred in 16 of 30 of those receiving HBIG (53.3%) and in 23 of 38 (60.5%) who did not receive HBIG (NS).

**Liver Injury Parameters in Patients with Recurrent HBVLD.**—Of the 31 patients alive with recurrent HBVLD, 18 have either normal or near normal ( $<2\times$  ULN) liver injury parameters (SGPT [ALT], SGOT [AST], and alkaline phosphatase). Only 13 have distinctly abnormal liver injury parameters ( $>2\times$  ULN) (Table 6).

**Retransplantation.**—A total of 11 retransplants were performed in 9 of the 78 patients (11.5%) in this series. Nine of the retransplant procedures (9 of 11 = 81.8%) were performed in 7 patients because of a technical problem. Of these 7, 4 (57.1%) are alive. Only 2 second transplants were performed for recurrent HBVLD. One of these two patients is still alive.

## Discussion

HBVLD is one of the leading indications for orthotopic liver transplantation. Five percent to 8% of transplants have traditionally been done for this indication.<sup>5</sup> However, many studies are now questioning the wisdom of transplanting patients with this disease, as there is an extremely high incidence of recurrence following orthotopic liver transplantation. Medicare has used this high incidence of recurrence as justification for denying liver transplantation to individuals who are hepatitis B surface antigen positive. The rate of disease recurrence in OLTx recipients treated with cyclosporine is known to vary as a function of the hepatitis B e antigen/antibody status of the allograft recipient.<sup>6</sup> Few or no data exist for the recurrence rates in recipients with other HBV serological markers. To investigate the incidence and timing of recurrent hepatitis B virus in primary orthotopic liver transplant recipients treated with tacrolimus, we studied 78 such consecutive recipients transplanted from January 1, 1990, through December 31, 1991. Tacrolimus is a powerful new immunosuppressive agent. In addition to being more effective than cyclosporine, as reflected in superior patient and graft survival following OLTx, tacrolimus can also be used in more than half the subjects so treated without the use of supplemental glucocorticoids.

In the present series, 56% of the cases trans-

planted for HBVLD and receiving tacrolimus had disease recurrence. Of those with acute hepatitis B disease, 60% experienced a disease recurrence. As was the case with those treated with cyclosporine, those treated with tacrolimus who have higher levels of HBV replications, as assessed by the presence of HBe antigen positivity, had a higher disease recurrence rate (87.5%). Furthermore, of the 8 patients transplanted with HBe antigen positivity, 4 have already died of recurrent HBVLD.

The use of HBIG did not prevent recurrent HBVLD but may have delayed its clinical onset. Whether the continual administration of HBIG beyond 6 months would prevent recurrent HBVLD for a longer period, if discontinued at some time in the future, or forever, if not discontinued remains to be determined. In this regard, it is of some interest to note that despite the presence of endogenous HBsAb, 1 of 16 such patients acquired HBVLD in the liver allograft under tacrolimus immunosuppression. The postoperative administration of alpha interferon to either prevent disease recurrence or to treat established disease recurrence, has proven disappointing.<sup>7,8</sup> There may emerge a role for thymosin, a new immunomodulator or specific anti-hepatitis B viral agent, at some time in the future to prevent or treat recurrent HBVLD in orthotopic liver transplant recipients.<sup>9</sup>

In this series, there are presently 31 patients alive with documented HBVLD recurrence. These patients' liver function tests are statistically different than the tests of the 26 patients still alive in this study without recurrence. However, of the 31 patients, 18 have normal liver functions, and only 13 patients have deranged liver function. The mean time to document the disease recurrence was 293 days, with a range from 50 days to greater than 900 days. The fact that the disease continues to recur even years after transplantation is disquieting and complicates the long-term management of HBVLD orthotopic liver transplant recipients.

Overall, however, with a median follow-up of 24 months, 73.1% of the patients in this series are still alive. These results far exceed Medicare requirements of 60% patient survival at 24 months to insure reimbursement. While certain subgroups of hepatitis B virus-infected individuals may have a degraded prognosis with transplantation, in general, the overall group does extremely well. HBe antigen positive, and possibly HBV-DNA positive individuals, have virtually uniform recurrence of their disease, and it appears as though the disease is quite aggressive once it occurs. It strikes us as reasonable to exclude this subgroup from consideration for transplantation.

In addition to being more effective than cyclosporine, tacrolimus can also be used in more than half the subjects so treated without the use of supplemental glucocorticoids.

Nonetheless, hepatitis B virus-infected individuals with appropriate serologies should not be uniformly excluded from transplantation. □

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## The Use of Interferon for the Treatment of Viral Hepatitis in Pediatric Liver Transplant Recipients

Bakr Naur, MD; Andreas Tzakis, MD; David H. Van Thiel, MD

Between January 1990 and July 1992, 12 children with viral hepatitis occurring after liver transplantation (LTx) were treated with interferon alpha-2b. Seven were female and 5 were male; their ages ranged between 0.7 and 14.7 years (mean = 5.4 years). The indications for LTx included biliary atresia (n=7), chronic active hepatitis (n=2), and fulminant hepatitis (n=3). Therapy was initiated at a dose of 1-3 million units (5 million units/1.73 m<sup>2</sup>) given 3 times per week and continued for more than six months. Six patients experienced a full response with normalization of their serum liver enzymes and a complete resolution of histologic hepatitis on liver biopsy. Two patients had a partial response with improvement in their liver enzyme values. Four patients required retransplantation for worsening hepatitis despite interferon (IFN) therapy. Three of these four were treated prophylactically with IFN therapy after their second transplant. Two of these four have shown no clinical or histologic evidence of hepatitis in their second liver after a follow-up of 20 and 4 months. IFN failed to prevent recurrent hepatitis in the other two children. One died at retransplant and the second developed recurrence of the giant cell hepatitis and rejection. Overall, IFN was well-tolerated by 11 of the 12 children; the 12th child required a dose reduction because of

seizures. Based upon this preliminary uncontrolled experience, we conclude that the use of interferon alpha-2b is safe and effective in the treatment of viral hepatitis in children after liver transplantation.

**V**iral hepatitis occurring in an orthotopic liver transplantation (OLTx) recipient is an important clinical problem. The incidence of viral hepatitis following otherwise successful OLTx depends upon multiple factors including the specific viral agent (hepatitis B virus [HBV], hepatitis C virus [HCV], and hepatitis D virus [HDV]), the patient's serologic status (hepatitis B surface antigen [HBsAg], hepatitis E antigen [HBeAg], hepatitis B virus DNA [HBV-DNA], and hepatitis BE antibody [HBeAb]) and the clinical presentation (fulminant hepatic failure or chronic hepatitis) of the patient at the time of transplantation.

Hepatitis B infection causes the greatest amount of morbidity and is associated with a high post-OLTx mortality.<sup>1-3</sup> The experience with HCV disease is less clear. Martin et al.<sup>4</sup> have reported the lowest rate (17.6%) of HCV in liver allograft recipients. Others have reported rates that vary between 33% (defined clinically) and 100% (defined by the detection of HCV-RA in the recipient's serum).<sup>5-7</sup> Although the clinical course of both *de novo* and recurrent HCV disease in liver allograft recipients is less clear than that of HBV, it may ultimately be as poor.

Thus efforts to prevent or treat viral hepatitis in liver allograft recipients are important and are of great clinical interest to transplant physicians and surgeons. The following is a report of the use

All but two of the [twelve] children treated with interferon continued on the same dose of immunosuppression they were on at the time they were diagnosed as having viral hepatitis.

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Table 1. Clinical and Demographic Data of the Subjects

Patient I.D. #	Age at time of OLTx	Gender	Hepatic Diagnosis prior to OLTx	Immunosuppression	Type of Hepatitis
1	1.1	F	Fulminant hepatic failure	Primary Tacrolimus	NANBNC
2	6.3	F	Biliary atresia (BA)	Rescue Tacrolimus	NANBNC
3	7.5	M	FHF	Primary Tacrolimus	NANBNC
4	12.6/14.5	M	Chronic active hepatitis (Giant Cell Hepatitis)	Rescue Tacrolimus	NANBNC
5	0.7	M	BA	CyA + Prednisone	HCV
6	5	F	BA	CyA + Prednisone	HBV
7	6.1/14.5	M	BA	Rescue Tacrolimus	HBV and HCV
8	3.7	F	BA	CyA + Prednisone	HCV
9	14.5	M	CAH	Primary Tacrolimus	HCV
10	1.5/3.6	M	BA	Primary Tacrolimus	HCV
11	1.4	F	BA	Primary Tacrolimus	HCV
12	3.7	F	FHF	Primary Tacrolimus	HCV

of interferon alpha-2b (IFN) in pediatric liver allograft recipients in an effort to prevent or treat recurrent hepatitis.

### Methods

**Patients.**— A total of 12 pediatric patients with viral hepatitis documented by elevated serum levels of alanine aminotransferase (ALT) and aspartate aminotransferase (AST); a liver biopsy demonstrating a patchy, pan-lobular hepatocyte necrosis characterized by acidophilic necrosis; Kupffer cell hyperplasia; and a mononuclear infiltrate lacking any histologic or clinical evidence for allograft rejection or biliary tract injury were selected for treatment with IFN at a dose of 1-3 million units administered 3 times per week for a minimum of 7 months.

**Treatment Protocol.**— The dose of IFN utilized in this study was calculated on the basis of 5 million units/1.73 square meter surface area, the dose used in adults with liver transplants, who have been treated with IFN at our institution, scaled down for the reduced size of pediatric liver allograft recipients. Daily monitoring of the patient's white blood cell count, differential, platelet count, serum bilirubin level, aminotransferase levels, alkaline phosphatase, and gamma glutamyl transpeptidase levels were determined daily while the patient was in the hospital and then monthly until the completion of the IFN therapy.

**Response Definitions.**— A full response was

defined as normalization of the serum aminotransferase levels and in the case of HBV disease, seroconversion from HBeAg to HBeAb positivity.

A partial response was defined as a >50% reduction, but not a normalization of the serum aminotransferase levels.

All other responses were defined as failures.

**Hepatitis Serology.**— All patients had a full battery of hepatitis serologic examinations performed pre-transplantation, at the time the diagnosis of recurrent hepatitis, and at the end of the IFN therapy. This battery consisted of tests for the following antigens or antibodies: HAV-Ab IgM and IgG, HBsAg, HBeAg, HBeAb, HBsAb, HCV-Ab and HDV-Ab, and recently HCV by PCR. Commercial kits were used for all assays except the HCV-PCR.

**Immunosuppression.**— Six of the patients were treated primarily with tacrolimus as their sole immunosuppressive agent. The dose of tacrolimus is individualized to maintain a fasting plasma tacrolimus level in the range of 0.8-1.2 ng/ml. Three patients were treated with cyclosporine A at a dose to maintain a plasma CyA level between 200 and 400 ng/ml and adjuvant steroids. The remaining three patients had been switched to tacrolimus from cyclosporine in an attempt to reverse advanced acute cellular rejection.

### Results

The clinical and demographic data of the 12 pa-

**Table 2. Hepatitis Serologic Findings at the Time of the Initiation of IFN Therapy, Response to IFN and at the End of Follow-up**

PT	HBs Ag	HBc Ag	HBe Ag	HBs Ab	HBc Ab	HBe Ab	HCV Ab	HCV PCR	NANBNC	Duration of IFN Treatment	Response to IFN	Duration of Follow-up	Relapse	Current Status
1	-	-	-	-	-	-	-	-	x	25 months	Full	37 months	-	Alive
2	-	-	-	-	-	-	-	-	x	21 months	Partial	33 months <sup>^</sup>	+	Died
3	-	-	-	-	-	-	-	-	x	11 months	Full	25 months	-	Alive
4	-	-	-	-	-	-	-	-	x	23 months	Retransplant	25 months	+	Alive
5	-	-	-	-	-	-	+	+	-	25 months	Full	25 months	-	Alive
6	+	+	+	+	+	-	-	#	-	9 months	Full	22 months	-	Alive
7	+	+	-	+	+	+	+	#	-	7 months	Retransplant	20 months	-	Alive
8	-	-	-	-	-	-	+	#	-	13 months	Retransplant	24 months	-	Alive
9	-	-	-	-	-	-	+	-	-	7 months	Full	20 months	-	Alive
10	-	-	-	-	-	-	+	-	-	12 months	Retransplant	16 months	-	Died
11	-	-	-	+	-	-	+	+	-	14 months	Partial	14 months	+	Alive
12	-	-	-	-	-	-	-	+	-	12 months	Full	12 months	-	Alive

<sup>^</sup> Died secondary to a lymphoma related to the immunosuppression being used (EBV related)  
<sup>^^</sup> Died during retransplant (Failure)  
+ Positive  
- Negative  
# Not performed

tients treated with IFN for viral hepatitis following liver transplantation are shown in Table 1. Their mean age was 5.4 years with a range of 0.7 to 14.7 years. Seven had biliary atresia, 2 had chronic active hepatitis (1 HCV and 1 NANBNC giant cell hepatitis), and 3 had fulminant hepatic failure as their disease indication for OLTx.

The serologic findings of the 12 patients at the time of initiation of IFN treatment are reported in Table 2. In addition, Table 2 reports the duration of IFN treatment, subsequent follow-up, the type of response achieved, and whether or not a relapse occurred. Finally, it shows the patient's current survival status.

All but two of the children treated with IFN continued on the same dose of immunosuppression they were on at the time they were diagnosed as having viral hepatitis. One child had her tacrolimus discontinued because of a combination of viral hepatitis and other viral infections (CMV and varicella). She has remained off all immunosuppression for over a year. Despite receiving no immunosuppression and the addition of IFN therapy, she has not experienced an episode of allograft rejection.

The second patient was removed from tacrolimus after he developed a post-transplant lymphoproliferative disease. He lost his liver 16 months after transplantation because of viral hepatitis that could not be controlled with exogenous IFN.

Six children on IFN normalized all of their

biochemical parameters associated with hepatic injury (defined as a full response; see Table 2). These same six children also had a complete resolution of their histologic hepatitis. One of the two cases of HBV disease (Case 6) became HBeAg negative as a result of IFN therapy. This was the only case of HBV disease that had serologic evidence of viral replication prior to IFN treatment. Patient 7 was also HCV-Ab positive suggesting the possibility of a viral co-infection with both HBV and HCV. None of the HCV cases became HCV-RNA negative although all three experienced an improvement in their hepatitis as defined both biochemically and histologically (Table 2). Two patients, one with NANBNC and one with HCV disease, had a demonstrable reduction (>50% of the initial value) in their serum levels of ALT in response to IFN therapy but continued to have some histologic evidence for viral hepatitis albeit less active than prior to the initiation of IFN. Four patients required retransplantation because of progressive liver failure despite IFN therapy. Two of these 4 cases are currently alive and doing well 20 and 4 months following retransplantation without evidence of hepatitis. The third (Case 4) has recurrent giant cell hepatitis (hepatitis NANBNC) in the second allograft and is currently clinically stable although being maintained on intermittent IFN therapy. The fourth has recurrent hepatitis C in the second liver graft. Two patients died, one as a result of the development of a lymphoma and the second during retransplanta-



An unusual possible untoward effect of the use of interferon in this series was the development of seizures that recurred until the dose being used was reduced.

tion for hepatic failure due to hepatitis C. The latter (Case 7) represents the only failure to control HCV hepatitis by IFN as defined by the serum ALT and liver histopathology in the population studied.

All 12 children experienced a flu-like syndrome with the initiation of IFN therapy. However, none of these symptoms necessitated specific additional therapy or required cessation of the IFN therapy. Three of the 12 children experienced an episode of bone marrow depression defined as either a total WBC  $<1500$  cells/mm<sup>3</sup> or a platelet count  $<20,000$  cells/mm<sup>3</sup>. All three responded to a temporary reduction of the dose of IFN being used. A single child experienced three seizures that appeared to be related to the IFN that may also have been a consequence of a low serum magnesium level (1.2 mg/dl) in that they did not reoccur following a reduction in the amount of IFN being utilized and replenishment of the patient's magnesium stores.

### Discussion

The present report is of interest for several reasons. First, it is the only report of the use of IFN in pediatric liver transplant recipients. Second, it documents in children that IFN can be used to treat viral hepatitis in allograft recipients, despite its recognized immunomodulatory activity. More importantly, its use in such cases is not associated with an increased risk of allograft rejection. Of particular interest was the observation that one child could be treated successfully with IFN while having all of her immunosuppression withdrawn.

The use of IFN in children as in adult liver transplant recipients is associated with the development of flu-like symptoms during the first week or two of therapy.<sup>8</sup> These symptoms include fever, chills, myalgias, and lethargy which tend to dissipate with continual use of the agent. Moreover, essentially all children and most adults experience some degree of leukopenia and thrombocytopenia as an untoward consequence of the administration of IFN. In most cases, this action of the drug does not prohibit its continued use, but requires either a dose reduction as used in all of the cases in this study or the concurrent use of an agent such as granulocyte colony stimulating factor (G-CSF) or granulocyte-macrophage colony stimulating factor (GM-CSF) to counteract the myelosuppressive activity of the IFN therapy. This latter approach has been used recently in adults.<sup>9,10</sup>

An unusual possible untoward effect of the use of IFN in this series was the development of seizures that recurred until the dose of IFN being used

was reduced. Recently, this untoward event has been reported as occurring in children as a consequence of IFN therapy.<sup>11</sup> In contrast, this consequence of IFN use is rarely, if ever, seen in adults. In the present case it may also have been either a consequence of or synergized by some other factor such as hypomagnesemia or cyclosporine toxicity although the patient's magnesium level (1.2 mg/dl) and cyclosporine level (346 mg/dl) were not particularly abnormal at the time of the seizure.

Of particular importance is the observation that 8 of the children appeared to clear their viral hepatitis under IFN therapy despite continual immunosuppression and in the case of 2 children a second transplant procedure. Moreover, 2 children had a partial response to IFN defined as a  $>50\%$  reduction in the serum aminotransferase levels while on IFN therapy; thus only 2 children truly failed IFN therapy and one of them has recurrent giant cell hepatitis. Nonetheless, the cost of viral hepatitis in children with liver transplants is substantial as shown in this series. Four of 12 required retransplantation and 2 responded only partially to the therapy. These results have encouraged us to continue the use of IFN therapy as part of the therapy prescribed for children transplanted for or acquiring viral hepatitis as part of their transplant experience. It is anticipated that IFN therapy will either prevent the recurrence of viral hepatitis or reduce the otherwise rapid and relentless progression of viral hepatitis in liver allograft recipients that, if not treated, leads to progressive hepatic failure and the need for retransplantation.

In summary, IFN can be used in pediatric liver allograft recipients to treat viral hepatitis. Its use in such cases is associated with recognized side effects, some of which have not been reported in adults. Most of these untoward effects of IFN respond to a reduction in dosage or can be prevented with the addition of another drug (usually a marrow proliferative factor) to counteract the myelotoxic effects of the IFN. Rarely, doses of the drug need to be discontinued. Of particular importance in liver allograft recipients with viral hepatitis is the finding that the use of IFN in children does not enhance the risk of allograft rejection.

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## Major Gastrointestinal Bleeding Occurring After Liver Transplantation

Tarek Hassanein, MD; Ahmet Gurakar, MD; Harlan I. Wright, MD; David H. Van Thiel, MD

The incidence, frequency, and sites of major gastrointestinal bleeding occurring after successful liver transplantation are reported. Only 2.3% of liver transplant recipients experience a major gastrointestinal hemorrhage characterized by clinical hypotension or a need for more than three units of blood over a 12-hour period. Bleeding rarely occurs from a lesion identified pre-transplantation. Most bleeding episodes, although clinically significant, can be managed without additional surgery unless liver graft failure occurs, necessitating a second liver graft.

Orthotopic liver transplantation (OLTx) is a well-established therapy for patients with irreversible, advanced, or severe liver disease.<sup>1,2</sup> A large number of immediate postoperative problems, particularly those involving the biliary tree and vascular anastomoses as well as the potential for disease recurrence are well-recognized untoward consequences of such surgery.<sup>1-34</sup> The incidence and sites of major gastrointestinal bleeding occurring after OLTx, however, have not been reported. To address this issue, the following study was performed.

### Materials and Methods

The medical records of 2,381 liver transplant

recipients transplanted between January 1, 1985, and June 30, 1992, at the Pittsburgh Transplantation Institute, Pittsburgh, Pa., were reviewed. For each, all operative and endoscopic records were reviewed. The records of those patients, who experienced a major acute gastrointestinal bleed necessitating hospitalization, transfer to an intensive care unit, and one or both of the following criteria: hypotension being defined as a systolic blood pressure <80 mmHg or multiple transfusions (3 or more units of blood or plasma) over a period of 12-hours were identified. Each record was reviewed carefully for the following information: evidence of grade 3 or 4 varices prior to OLTx (all patients were prospectively endoscopic preoperatively); a history of prior esophageal or gastric variceal or peptic ulcer disease bleed-

**Table 1. Potential Sites for Upper Gastrointestinal Bleeding in 57 Prospectively Studied Liver Transplant Recipients**

Lesion or Site	N
Grade 1/2 varices	8 (14%)
Grade 3/4 varices	16 (28%)
Gastric ulcer	6 (11%)
Duodenal ulcer	0 (0%)
Portal hypertensive gastropathy	2 (3.5%)
Ulcerative colitis	1 (1.8%)
33 of 57 (58%) had a potential bleeding site pre-OLTx	

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**Table 2. Actual Sites of Gastrointestinal Bleeding Post-OLTx**

<b>I. Esophageal Sites</b>	<b>Single Bleed</b>	<b>Multiple Bleed</b>	<b>Total (%)</b>
Esophageal varix	5	12	17 (18.5)
Esophageal erosions	0	6	6 (6.5)
Esophageal ulcers	3	7	10 (10.9)
Esophageal candidiasis	1	2	3 (3.3)
<b>Subtotal</b>	<b>9</b>	<b>27</b>	<b>36 (39.1)</b>
<b>II. Gastric Sites</b>			
Partial hypertensive gastropathy	2	6	8 (8.7)
Gastric ulcer	5	8	13 (14.1)
Gastritis	7	8	15 (16.3)
Other	1	0	1 (1.1)
<b>Subtotal</b>	<b>15</b>	<b>22</b>	<b>37 (40.2)</b>
<b>III. Duodenal Sites</b>			
Duodenal ulcer	0	1	1 (1.1)
Duodenitis	1	1	2 (2.2)
<b>Subtotal</b>	<b>1</b>	<b>2</b>	<b>3 (3.3)</b>
<b>IV. Small Bowel &amp; Colonic Sites</b>			
Roux-en-Y bleed	2	1	3 (3.3)
Colon	2	2	4 (4.3)
Other	3	1	4 (4.3)
<b>Subtotal</b>	<b>7</b>	<b>4</b>	<b>11 (11.9)</b>
<b>V. Unknown Site</b>	<b>2</b>	<b>3</b>	<b>5 (5.4)</b>
<b>TOTALS</b>	<b>34</b>	<b>58</b>	<b>92</b>

ing requiring hospitalization; the source of the post-transplant bleeding; and the hospital course of the bleeding episode. Those with more than one major postoperative bleeding episode were investigated thoroughly for each episode. In addition, the status of the liver graft at the onset of the bleeding and the effect of the bleeding episode upon subsequent graft status was determined for each bleeding episode. All endoscopic records relating to the admission for bleeding were reviewed, as well as the therapy provided. All operative records relating to the post-transplant bleeding episode were reviewed to determine the operative findings and the therapeutic procedures performed.

Each record was reviewed initially by one of the investigators. In each case, the determined site of bleeding, based upon the initial record review, was confirmed by at least one of the other investigators, who also reviewed the data.

## Results

From the review of 2,381 patient records, a total of 489 patients were found to have pre-transplant grade 3 or 4 varices being defined as filling 50-75% (grade 3) or >75% of the air-distended esophageal lumen at the time of their pre-trans-

plant endoscopy. Of these, 49% had a prior bleeding variceal episode, with 35% having had more than one episode of bleeding necessitating hospitalization. Many more had grade 1 or 2 varices and had bled prior to their transplantation evaluation, but because of prior sclerotherapy, varix ligation, a surgical procedure to reduce portal hypertension, or a TIPS (transjugular intrahepatic portal systemic) procedure, either did not have varices or had grade 1 to 2 varices at the time of the initial transplant evaluation.

Following OLTx, 57 patients (2.3% of the total) were found to have experienced a major gastrointestinal bleed as defined above over a 1- to 6-year period of follow-up. Thirty-four of these patients had bled only once while 23 had bled a total of 58 times for an overall total of 92 bleeding episodes occurring in 57 patients.

The potential sites of bleeding identified in these 57 patients as part of their pre-OLTx evaluation are shown in Table 1. Only 58% of the bleeding sites identified post-OLTx were identifiable as part of the pre-OLTx evaluation. The locations of the actual bleeding episodes in these 57 patients are shown in Table 2, where the data are segregated as to whether the bleeding episodes occurred as a single event or as one of many such

Death as a result of major gastrointestinal bleeding after liver transplantation is uncommon and occurs rarely except in the presence of graft failure.



**Table 3. Site of Bleeding in the 23 Patients with Multiple Post-OLT<sub>x</sub> Bleeding Episodes**

	Total	First Episode	Second Episode	Additional Episodes
I. Esophageal	27	12	10	5
II. Gastric	22	8	11	3
III. Duodenal	2	1	1	0
IV. Small bowel and colon	4	1	0	3
V. Unknown	3	2	0	1
<b>TOTALS</b>	<b>58</b>	<b>24</b>	<b>23</b>	<b>11</b>

58 episodes in 23 patients with multiple bleeds

**Table 4. Timing of Post-OLT<sub>x</sub> Major Bleeding Episodes**

Cases	Single	Multiple	n
0-6 weeks	9	10	19
7-25 weeks	8	14	22
26-52 weeks	4	5	9
>52 weeks	13	29	42
Total Bleeding Episodes	34	58	92

episodes. The most common site for major post-OLT<sub>x</sub> bleeding was the stomach, with most of the bleeding (22 of 57 or 39%) occurring as a single episode. The second most frequent site was the esophagus, where most of the postoperative bleeding was from either an esophageal varix or an ulcer. Duodenal, other small bowel sites, and colonic bleeding accounted for only a minority of the major bleeding episodes experienced post-OLT<sub>x</sub>. The same finding was true for those with a single or more than one major bleeding episode (Table 3).

When the major bleeding episodes seen post-OLT<sub>x</sub> were segregated as to the time of their occurrence, the majority were found to occur one year or more after OLT<sub>x</sub> (Table 4). Nonetheless, 15 of 57 (26%) occurred within 6 weeks and 27 of 57 (47%) occurred within 25 weeks of the OLT<sub>x</sub>. The period from 26 to 52 weeks post-OLT<sub>x</sub> was relatively free of major gastrointestinal bleeding.

When the major post-OLT<sub>x</sub> bleeding episodes were segregated as to site of bleeding as well as time following OLT<sub>x</sub>, the majority of the early bleeds occurred from the esophagus, while the

stomach was the most frequent site 6 weeks or more post-OLT<sub>x</sub> (Table 5).

Fortunately, the majority of the bleeding episodes (71%) could be managed with medical therapy alone, which consisted of H<sub>2</sub> blockers, antibiotics (gancyclovir or an antifungal agent) and/or a cytoprotective agent. Nonetheless, the consequences of experiencing a major gastrointestinal bleed post-OLT<sub>x</sub> are substantial. Specifically, 8.7% those experiencing a major gastrointestinal bleeding episode died as a direct result of the bleeding episode (Table 6). Moreover, 26.3% required some form of major surgery consisting of either a second liver graft or a total gastrectomy, at least in part as a consequence of the bleeding episode. Ten cases with esophageal variceal bleeding post-OLT<sub>x</sub> received endoscopic sclerotherapy. An equal number of cases with gastric variceal bleeding had a Sengstaken-Blakemore tube placed to control bleeding either at the GE juncture or immediately below it (Table 6). Nonetheless, surgery for the bleeding was unusual and medical (non-surgical) approaches to the control of bleeding were usually successful.

## Discussion

Much has been written about the post-transplantation complications that occur in individuals who have previously received a liver transplant.<sup>1-34</sup> The issues that have captured the interest of most reports have been the problems of graft rejection, infection, and other issues related to the use of the immunosuppressive agents that all graft recipients must take life long. Only recently have other issues, such as the neurologic consequences of liver transplantation,<sup>6</sup> partial or complete diaphragmatic paralysis,<sup>3,4</sup> and gastrointestinal motility disorders<sup>7,16,18,19,21,22</sup> occurring as a consequence of the overall transplant experience been examined in detail.

An important issue that remains under report and under investigation is the frequency, location, and severity of major gastrointestinal bleeding that occurs in liver transplantation recipients. In the present report it is quite clear that after OLT<sub>x</sub>, as before, the most common site for major gastrointestinal bleeding is the esophagus, followed closely by the stomach. Nearly half the bleeding episodes occur early, within 25 weeks of the OLT<sub>x</sub>, with slightly more than half of these occurring within the first six postoperative weeks.

Somewhat surprising was the finding that many bleeding episodes occur a year or more after the OLT<sub>x</sub> procedure. The findings of upper gastrointestinal endoscopy, even at this late date,

**Table 5. Sites of First Major Post-OLTx Bleeding as a Function of Time Post-OLTx**

	0-6 Weeks			7-25 Weeks			26-52 Weeks			>52 Weeks		
	Single	Multiple	Total	Single	Multiple	Total	Single	Multiple	Total	Single	Multiple	Total
Esophagus	4	3	7	2	2	4	0	2	2	3	4	7
Stomach	2	2	4	4	1	5	3	1	4	6	5	11
Duodenum	0	1	1	0	0	0	1	0	1	0	0	0
Roux-En-Y	1	0	1	0	0	0	0	0	0	1	0	1
Small bowel	1	0	1	1	0	1	0	0	0	1	0	1
Colon	0	0	0	1	0	1	0	0	0	1	0	1
Unknown	1	0	1	0	1	1	0	0	0	1	1	2
Totals	9	6	15	8	4	12	4	3	7	13	10	23

identified the proximal bowel as the most common site for major gastrointestinal bleeding. This upper gastrointestinal endoscopy, followed by a considerable margin, and arteriography were the two most frequently used and useful diagnostic and therapeutic procedures in liver transplant recipients with major gastrointestinal bleeding.

Surgery is rarely required for post-OLTx bleeding, even when massive. Re-grafting may be required as a result of graft failure occurring in association with a major bleeding episode. Death as a result of major gastrointestinal bleeding post-OLTx is uncommon and occurs rarely except in the presence of graft failure.

Esophageal ulcers and erosions occurring as a consequence of prior sclerotherapy, gastric reflux, or an opportunistic esophageal infection are the most frequent causes of early post-OLTx bleeding, followed closely by gastric ulcer bleeding. After a year or more, bleeding, when it occurs, is usually a complication of recurrent disease and is either variceal in nature or a consequence of portal hypertensive gastropathy. Less often, graft failure is an important precondition for late major gastrointestinal bleeding.

Based upon these findings, it is anticipated that attention to sclerotherapy technique, its replacement with a TIPS procedure to control bleeding in an obvious OLTx candidate, and aggressive medical treatment of opportunistic infections of the proximal gastrointestinal tract as they occur with the use of immunosuppressive agents to prevent or, more often, to control rejection, ought to substantially reduce the frequency of early major post-OLTx bleeding. The use of better or more selective and effective immunosuppressive

**Table 6. Consequences of Post-OLTx Bleeding**

I. Deaths	
Due to bleeding	2
due to bleeding and graft failure	3
II. Additional Surgery	
re-grafting	12
gastrectomy	1
ather (Roux-en-Y)	2
III. Endoscopic Sclerotherapy	10
IV. H <sub>2</sub> Blocker	12
V. Sengstaken-Blakemore Tube Replacement	10

agents in the future should further reduce the number of bleeding episodes in liver allograft recipients.

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The normal elderly can be forgetful in some everyday activities—with names and dates, parts of events, or even the events themselves—when these events are not critical in their lives. Their forgetfulness is not constant and does not disable their living patterns.

## Mental Acuity of the Normal Elderly

Warren F. Gorman, MD; Cris D. Campbell, JD

The elderly are persons over age 65, now comprising 12% of our population. The normal elderly function normally both in their self care, and also in their social activities of daily living, which we tabulate.

The current terms for the normally functioning elderly who show only mild psychological deficits are *age-associated memory impairment* and *age-related cognitive decline*, which we define, criticize and tabulate.

The psychological deficits of the elderly consist of mild generalized slowing and inaccuracies compared to normal young persons. These deficits are measured by objective psychological tests which mimic real daily living situations—the name-face test, fire alarm test, two delayed recall tests, misplaced objects test, shopping list test, and digit symbol test, which we describe.

A longer early formal education is preventive of mental dulling during normal aging. Treating using overlearning, by cognitive training, is significantly beneficial.

**O**ld age, the condition of being elderly, begins at age 65, with early old age from 65 through 74 and advanced old age from 75 onwards. The terms *young old* and *old old*, the first being an oxymoron and the second a tautology, also describe these age groups. The percentage of elderly persons in the United States, now over

12%, is increasing, having grown in the decade 1970 to 1980 by 20%, and in 1980 to 1990 by an additional 18%.<sup>1</sup>

Some 5% or more of the elderly have Alzheimer's disease.<sup>2,3</sup> In those persons over 85—comprising the fastest growing segment of our population—20% have Alzheimer's disease.<sup>2,4</sup>

*Normal* means that the individual functions normally by current medical and social standards. These standards require that the individual can live independently in the community, and also can normally perform both the simple, or self care, activities of daily living (Table 1) such as dressing, feeding, and toileting, but also the complex, or social activities of daily living, such as arranging for transportation, nursing, and medical care.<sup>5-10</sup>

Normal elderly persons can be forgetful in some everyday activities—with names and dates, parts of events, or even for the events themselves—when these events are not critical in their lives. Their forgetfulness is not constant, and it does not disable their living patterns. A normal elderly person may write notes as reminders, particularly for items which are not routine.<sup>11</sup>

The normal elderly show a decline with age in their ability to learn and recall names of other persons, to remember items they intended to buy, or tasks they intended to perform, and to remember the facts from an article in a newspaper or magazine, or in a legal brief.

For an expert to rate the mental function of a normal elderly individual requires that this expert be familiar with both normal and abnormal persons who are similar, socially and educationally.

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The deficits of mental functioning in the normal elderly consist primarily of generalized slowness and inaccuracy, particularly of memory.

**Table 1. Activities of Daily Living**

<b>Self Care</b>	
Can the patient, alone, safely:	
Feeding	Prepore food far own meals Eat self prepared food
Dressing	Remove all awn clathing Find own clean clathing Dress self
Bathing	Bothe self Dry self
Toilet	Find toilet Use toilet satisfactorily
Continance	Withaut catheter in plocce, nat wet self with urine Withaut special devices, not soil self with feces
Transfer	By self • Get aut af bed • Get into wheelchair • Get aut af wheelchair
<b>Social</b>	
Purchase food	
Purchase household supplies, clathing	
Handle simple finances	
Arrange for public or privote transportation	
Arrange far nursing and medical care	

### Elderly Mental Assets and Liabilities

Among the assets of old age are experience, sophistication, and wisdom, an observation to which a number of senior readers will attest.

### Objective Psychologic Tests

On the other hand, the liabilities, or the deficits, of mental functioning in the normal elderly, as compared to the normal young, consist primarily of generalized slowness and inaccuracy, particularly of memory. Physical function is also slowed in old age.<sup>18</sup> Thus in a test of psychomotor speed, the finger tapping test, the subject taps a telegraph key for 15 seconds. On this test, the elderly are slower than the young by about 20%.<sup>12</sup>

Another objective psychologic test is a test of memory which mimics daily living, consisting of recalling the correct name to match a face. When a single face was presented with its name, the normal young subjects, age 18 to 45, and the normal elderly subjects, age 60 to 85, did equally well. But when presentation was made of three or more name-face pairs at the same time on the screen, the elderly, unlike the young, failed to

**Table 2. Delayed Recall and Aging (From the Wechsler Memory Scale)**

Age	20-24	45-54	70-74
Raw Score	82	74	54
Delayed recall — A measure of retention of memory diminishes by 1/3 as we oge from 20 to 75 <sup>11,31</sup>			

recall the correct name in more than one-third of the pairs.<sup>12</sup>

A practical test of memory and judgment is the fire alarm test. In this test, the subject is shown pictures of two tall buildings, one of which is struck by a bolt of lightning. After this lightning strike, in one-third of the trials, a fire appears in the building on the right, in one-third a fire appears in the building on the left, and in the remaining third, there is no fire. The subject is directed to send in a fire alarm by pressing the appropriate button for the building which is on fire.

The normal elderly performed about 27% less well than did the normal young subjects. When a delay of 15 seconds or more was interposed between showing the fire and the subject pressing the correct alarm button, the elderly again did just as poorly.<sup>12</sup>

(This delayed recall visuospatial task showed the same decrement in old monkeys, as compared to young monkeys, permitting brain research on memory, learning, and kindling still in their exploratory stage.<sup>11,25</sup>)

Delayed recall shows an even greater decrement with aging by using the established and popular Wechsler Memory Scale. On this test, which examines the subject's recall of words after a short delay, the normal 70- to 74-year-olds were 32% less accurate than the normal 20- to 24-year-olds (Table 2).<sup>13</sup>

A recent report confirms this observation. Welsh and coworkers devised a 30-minute battery of neuropsychological tests to distinguish the normal elderly from Alzheimer's patients.<sup>21</sup> Using this battery, the normal elderly person's delayed recall of ten unrelated words was only two-thirds of the young person's score.

A memory test frequently used by neurologists, psychiatrists, and psychologists is the digit span test. In this test, the examiner recites, slowly and evenly, a number of digits, and the subject immediately repeats them. The normal digit span is 7 digits, as in a telephone number.

For assessing the memory of the healthy elderly, this digit span test is of no value. Normal elders retained 7 digits as well as their young counterparts. Different types of digit span tests—



backward digit span, supraspan test, and running digit span—also did not differentiate healthy elders from the healthy young. And in elderly persons whose memory impairment had been demonstrated by other tests, the digit span remained normal.<sup>14</sup>

But on using a related test that simulates the daily living of real life, the normal elderly significantly faltered. This test was presented to the aging subjects as the telephone test, using a real telephone. The 3-digit sequence was called the area code, the 7-digit sequence was the telephone number, and the 10 digits were the long distance number. The task of the test was not only to mentally retain the 3, 7, or 10 digit sequences, but also to dial these numbers on a telephone (Table 3).<sup>14</sup>

In Table 3, we see that the healthy elderly, compared to the healthy young, did exactly as well with a 3-digit area code, and only insignificantly less well with a 7-digit telephone number. But they performed significantly less well with a long distance number.

When greater complexity is added to a task involving digits, the elderly fare even worse. In the digit symbol test, the subject is given a chart that clearly shows the digits from 1 through 0, with a simple symbol paired to each digit, such as the digit 2 paired to a symbol generally resembling the letter E. With this chart in view, the subject is given a string of randomized digits and directed to pair them as in the chart. Compared to the performance of young adults, the elderly fail to match digit to symbol about 40% of the time.<sup>12</sup>

The elderly are more likely than their young counterparts to misplace commonly used and necessary objects such as keys, eyeglasses, gloves, pen, book, ring, umbrella, watch, billfold, and cigarette lighter. In the misplaced objects test, the normal 21-year-olds placed almost every one of these ten items correctly, scoring 9.9, or 99%, while the elderly, mean age 69, scored only 89%.<sup>15</sup>

Equally sensitive to the effect of normal aging, and similarly reminiscent of the mental tasks of everyday life, is the shopping list test.<sup>16</sup> The subject is shown these words on a screen, one at a time, in a fixed order, for three seconds at a time: *milk, eggs, apple, sugar, pepper, pickles, hamburger, potatoes, soup and butter*. After three trials, when the young normals had a success rate (for remembering all ten) of 84%, the elderly had a rate of only 59%. After five trials, when the young now had a success rate of 98%, the elderly scored only 82% (Table 4).

Even some basic mental tasks can be failed by a significant number of elders whose overall

**Table 3. Retaining Digits of a Telephone Number**

Task	Young Normal	Elderly Normal
3 digits (Digits Retained)	3	3
7 digits	6.8	6.3
10 digits	7.2	6.1
See Crook 1980		

**Table 4. Shopping List Test and Aging**

	Success Rate	
	On 3rd Presentation	On 5th Presentation
Young Normal Subjects	84	98
Elderly Normal Subjects	59	82

functioning is within normal limits. In one report, healthy elderly subjects were given appropriate instruction on how to make a simple line drawing of a cube, but 70% of them could not perform this visuospatial task.<sup>17</sup> Under similar test circumstances, 17% could not accurately identify their own fingers.

### Senescence vs Senility

While *senile* has been defined by medical experts as meaning both "old" and "abnormal," this term is also used to merely mean chronologically old.<sup>18</sup> Thus today we may echo the words of Thomas Jefferson, who wrote "... to exchange the roar and the tumult of bulls and bears, for the prattle of my grandchildren, and for senile rest."

The word *senescent*, meaning "growing old," has appeared in the literature for over three decades as an essential part of *benign senescent forgetfulness*, this term being a physicianly positive label for the understandable slowness and expectable inaccuracies of aging.<sup>11,18-19,28</sup> But flaws in the research which supported the original definition of this diagnostic item prompted the proposal of new terms, which we shall now describe.

### Diagnostic Terms for Normal Elderly

The use of a normative term for the normally functioning and non-deteriorating elderly, such as *aging-associated memory impairment* or *age-associated memory impairment*, has been proposed.<sup>11</sup>

When we use such diagnostic terms, diagnostic criteria are required to set the limits of normal



**Table 5. Age-Associated Memory Impairment  
Proposed Diagnostic Criteria**

- |  |  |
|--|--|
| A. Inclusion Criteria (All of 1,2,3,4 are required)                      |  |
| 1.   | Age 50+  |
| 2.   | Complaints of memory loss:<br>Remembering names, multiple objects, multiple tasks, telephone numbers, zip codes, misplacing objects, slow recalling information, particularly after delay or distraction |
| 3.   | Tests of recent memory by clinical methods, or by standard tests (see Table 6), are significantly below young normal   |
| 4.   | Preservation of previously normal vocabulary   |
| B. Exclusion Criteria (Presence of any item below invalidates diagnosis) |  |
| 1.   | Neurologic disease producing cognitive deficit, such as Alzheimer's disease, Parkinson's disease, Stroke and Multi Infarct Dementia  |
| 2.   | Major psychiatric disorder, particularly Depression  |
| 3.   | Medical disorder producing cognitive deficit   |
| 4.   | Prescribed drugs, alcohol, other chemical use or withdrawal producing cognitive deficit  |
| 5.   | Head injury producing cognitive deficit  |

See Crook 1989

An increased amount of early formal education may delay, or perhaps even prevent, the dulling of mental acuity which takes place with normal aging.

memory impairment in the elderly. Crook has proposed an excellent set of such criteria, which we have modified slightly.<sup>11</sup> We present this modification in Table 5.

After consideration of such criteria, a committee of the American Psychiatric Association, writing for the *Diagnostic and Statistical Manual of Mental Disorders*, achieved consensus by producing the following standard<sup>20</sup>:

**Age-Related Cognitive Decline 780.9**

(This enumeration means that the condition described is not a disorder or a disease.)

"This category can be used when the focus of clinical attention is an objectively identified decline in cognitive functioning, consequent to the aging process, that is within normal limits, given the person's age. Individuals with this condition may report problems remembering names or appointments, or may experience difficulty in solving complex problems. This category should be considered only after it has been determined that the cognitive impairment is not attributable to a specific mental disorder or neurological condition..."

Thus the standard term, as of this writing, for the mild mental deficits of the normal elderly is *age-related cognitive decline*.

**Very Early Alzheimer's Disease**

There are leading batteries of psychological tests which assist distinguishing the normal elderly from very early Alzheimer's disease.<sup>21,29</sup> But this diagnosis requires deterioration—a clinical, not a test, phenomenon.<sup>30</sup>

**Education Prevents Mental Aging**

In an elegant study of normal aged persons, whose normality was demonstrated by physical and mental examinations, the subject of education versus mental aging was investigated.<sup>21</sup> The healthy elderly subjects were divided into two groups—those with less than 12 years of education, and those with more than 12. The investigators' results showed that the higher education group, or those with some or extensive college education, performed significantly better on five of their eleven tests of normal mental acuity. These tests were standard tests of naming of objects, learning of new material, recall of a word list, skilled movement (which is called *praxis*), and perhaps most important, a long-established test of overall mental acuity, the mini mental status examination.<sup>26</sup>

This investigation demonstrates that an increased amount of early formal education may delay, or perhaps even prevent, the dulling of mental acuity which takes place with normal aging.

**Memory Treatment/Education**

Treatment of a normal condition, such as age-related memory impairment, is warranted when safe treatment will improve the mental or physical status or functioning. In this condition, useful improvement has been accomplished by many techniques, including cognitive remediation, which resulted in the old subjects making a substantial gain in the sharpness of their cognitive functioning—a kind of mental rejuvenation.<sup>22</sup> Enhanced visual imagery, with other measures,

**Table 6. Some Psychological Tests Showing Normal Cognitive Function**

Test	Normal Range
Mini Mental State Examination <sup>(a)</sup>	25 and above
Benton Visual Retention Test	5 and above
Wechsler Memory Scale Associative Learning Test	9 and above
Wechsler Memory Scale Logical Memory Test	6 and above
CERAD, Part IV, 1994 Delayed Word Recall <sup>(b)</sup>	6.5 and above

(a) Folstein 1975  
(b) Welsh 1994

significantly improved the memory of normal elderly community volunteers.<sup>23</sup> Such programs, which have been labeled as treatment, primarily consist of educational overlearning. Overlearning, which is cognate to a child's mastering of the ABCs, is especially effective for memory improvement when visual imagery is called into play.<sup>13</sup> Using such a technique, the subject associates the item to be overlearned with a visual image that already is a familiar one.<sup>24</sup>

This method of visually focused association has been used by public speakers and actors since early historical times. A Roman orator, for example, would first memorize, in his mind's eye, the locus of serial structures in the Forum, and then associate these loci sequentially with the verbal items of his oration. As he was making his presentation, he would view these loci and his associated verbal items would readily come to mind, thus helping him to put each thought, persuasively and eloquently, in its place.<sup>23</sup>

In modern times, while we have shown above that a greater amount of formal education in early life is preserving of memory in our old age, we now see that it is never too late to practice learning to remember.

## Conclusion

Normal elderly persons have many mild mental deficits, contrasted to their mental functioning when they were young. These deficits, to a small but significant extent, are remediable.

## Appendix

**Definitions of Some Psychological Terms: Cognition**—from the Latin *cognoscere*, to become acquainted with, know—is the mental process by which information is ac-

quired, stored, and used. Cognition includes orientation to time, place, and person, and also includes memory. *Memory* is the mental process permitting retrieval of information. *Learning*, which is an enduring change in mental set following experience, depends on memory. *Attention*, which is necessary for both memory and learning, is the voluntary and involuntary awareness of incoming information.<sup>12</sup>

Note: This article does not describe the neurologic and psychiatric deficits of the normal elderly.

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## The Author

Warren F. Gorman, MD, FACP, is a practitioner of legal medicine, a specialist in neurology and psychiatry, and a former law professor. Currently he is a neurological disability evaluator and neurological consultant at the VA hospital in Phoenix, Arizona.

# OKLAHOMA STATE MEDICAL ASSOCIATION

## 89th ANNUAL MEETING

### MARRIOTT HOTEL, OKLAHOMA CITY, OK, APRIL 7-9, 1995

The 89th Annual Meeting of the Oklahoma State Medical Association House of Delegates will be held on April 7-9, 1995. The OSMA Board of Trustees will meet on Thursday, April 6th. Help shape the future of medicine in Oklahoma by attending this annual gathering.

Special events this year include a three-hour scientific program provided by the University of Oklahoma College of Medicine. The OU College of Medicine Alumni Association also will hold its annual Awards Dinner honoring the private practice and academic physicians of the year and the Amicus Medicinae Award recipient.

The OSMA/OSMA Alliance Luncheon promises to be very special this year. Keynote speaker will be Governor Frank Keating (invited).

This year's OSMA/OSMA Alliance Presidents' Reception and Banquet will honor OSMA President Jay Gregory, MD and President-Elect Larry L. Lang, MD, and OSMA Alliance President Mrs. Maggie Hubner (Dauglas) and OSMA Alliance President-Elect Mrs. "K" Caldwell (Tim). The banquet will be held at the National Cowboy Hall of Fame and Western Heritage Center.

Please use the enclosed form to order tickets for all social functions. Checks for all events, including the OU College of Medicine Alumni Association Dinner, should be made payable to the OSMA.

Please use the enclosed registration form to make your reservations directly with the Marriott. The cutoff date for the special convention rate of \$70 is March 24, 1995. Listed below is a tentative schedule of events.

#### Thursday, April 6, 1995

- 11:00 am: OSMA Executive Committee - OSMA Headquarters
- 1:30 pm: OSMA Board of Trustees - OSMA Headquarters

#### Friday, April 7, 1995

- 7:30 am: OSMA Hospital Medical Staff Section Breakfast
- 9:00 am: OSMA House of Delegates Opening Session
- Naan: OSMA/OSMA Alliance Luncheon
- Keynote Speaker: Governor Frank Keating (invited)
- 1:30 pm: Candidates' Forum
- 1:30 pm: OU College of Medicine Scientific Program
- 2:00 pm: OSMA Reference Committees
- 4:00 pm: OSMAA Auction to Benefit AMA-ERF
- 6:00 pm: OU College of Medicine Alumni Association Reception and Dinner
- Presentation of Physician of the Year and Amicus Medicinae Awards

#### Saturday, April 8, 1995

- 7:30 am: OSMA Council on Rural Health
- 8:00 am: OSMA Past Presidents' and County Presidents' Breakfast
- 8:00 am: PLICO Loss Prevention Seminar - sponsored by Oklahoma Anesthesiology Society
- 9:00 am: Women in Medicine Breakfast
- Keynote Speaker: Nancy W. Dickey, MD, Vice-Chair, AMA Board of Trustees
- 12:30 pm: OSMA Golf Tournament - Silverhorn Golf Club
- 1:30 pm: PLICO Loss Prevention Seminar - sponsored by Oklahoma Surgical Association
- 1:30 pm: PLICO Loss Prevention Seminar - sponsored by Oklahoma State Orthopaedic Society
- 6:00 pm: OSMA/OSMA Alliance Presidents' Reception & Banquet -
- National Cowboy Hall of Fame and Western Heritage Center (Black Tie Optional)

#### Honorees

Jay A. Gregory, MD	Maggie Hubner (Mrs. Dauglas)	Larry L. Lang, MD	"K" Caldwell (Mrs. Tim)
OSMA President	OSMAA President	OSMA President-Elect	OSMAA President-Elect

#### Sunday, April 9, 1995

- 9:00 am: OSMA House of Delegates Closing Session
- 11:30 am: PLICO Forum (immediately following OSMA House of Delegates)



## OSMA's 89th Annual Meeting and 90th president arrive next month

Larry L. Long, MD, Oklahoma City surgeon, becomes the OSMA's new president next month at the 89th Annual Meeting of the association's House of Delegates. He will succeed Muskogee surgeon Jay A. Gregory, MD. Nominations for the posts of president-elect, vice-president, and secretary-treasurer will be announced. Currently David L. Harper, MD, Tulsa, is vice-president, and Carol Blackwell Innes, MD, Oklahoma City, is secretary-treasurer; both are eligible for re-election.

The meeting itself will run April 7 through 9 at the Marriott Hotel in northwest Oklahoma City. Room reservations should be made directly with the hotel, which is offering a special convention rate of \$70 until March 24. All OSMA members are invited to attend. A hospitality suite will open at 6 a.m. Friday through Sunday, and the registration desk will open at 7 a.m.

**Thursday.** — On Thursday, April 6, prior to the official opening of the meeting, the OSMA Executive Committee will meet at OSMA headquarters at 11 a.m., followed by the Board of Trustees at 1:30 p.m.

**Friday.** — The Opening Session of the House of Delegates convenes at 9 a.m. Friday, after a 7:30 a.m. breakfast meeting of the OSMA Hospital Medical Staff Section. The Opening Session routinely includes the presentation of awards and special reports, including a report from the Board of Trustees on

their meeting the previous day. Candidates for office will be announced.

At noon Friday there will be a jointly sponsored OSMA/OSMAA Luncheon, where Oklahoma Governor Frank Keating has been invited to speak. It will be followed by a Candidates' Forum at 1:30 p.m.



Jay A. Gregory, MD  
President

Also beginning at 1:30 is the OU College of Medicine's scientific program. It will include "Medical Legal Risk in Obstetrics: How to Bullet-Proof Your Practice" at 1:30 p.m., presented by Warren M. Crosby, MD. At 2:30, Douglas P. Finc, MD, will present "Chronic Fatigue Syndrome" and at 3:30 Gordon

H. Deckert, MD, will present "Health Care: A View from the Moon."

OSMA's three reference committees begin their deliberations at 2 p.m. Friday, and the day's activities will close with the OU College of Medicine Alumni Association Reception and Dinner, featuring the presentation of the Physician of the Year and Amicus Medicinae awards.

The Oklahoma Urological Association also has a dinner planned Friday evening at the Petroleum Club.

**Saturday.** — Saturday will mix a little more pleasure with the business, after an early start with the OSMA Council on Rural Health, which meets at 7:30 a.m. At 8 a.m. the OSMA's past presidents, county presidents, and specialty

society presidents will gather for a breakfast. The Oklahoma Anesthesiology Society meets for breakfast at 7 a.m. and a PLICO Loss Prevention Seminar at 8 a.m. Additional PLICO Loss Prevention seminars, sponsored by the Oklahoma Surgical Association and the Oklahoma State Orthopaedic Society, will be conducted in the afternoon.

At 9 a.m. Saturday, Keynote Speaker Nancy W. Dickey, MD, vice-chair of the AMA Board of Trustees, will address the Women in Medicine Breakfast and a golf tournament begins at 12:30 p.m. Saturday at the Silverhorn Golf Club, 11411 N. Kelley Avenue. Capping the day will be the OSMA/OSMAA Presidents' Reception and Banquet, to be held at the National Cowboy Hall of Fame and

Western Heritage Center. Black tie is optional at the event, which begins at 6 p.m. This year's honorees are OSMA President Jay A. Gregory, MD, and President-Elect Larry L. Long, MD, and OSMAA President Maggie Hubner and President-Elect "K" Caldwell. The Putnam City Strings will play for the reception and the University of Oklahoma College of Music will provide an

after-dinner performance.

**Sunday.** — Sunday marks the meeting's end, with the Oklahoma and Tulsa County medical societies holding caucuses at 7:30 a.m., prior to the Closing Session of the House of Delegates at 9 a.m. Elections will be held, reference committee reports will be submitted,



Larry L. Long, MD  
President-Elect

(continued)

## State doctors seek referrals for trial of inhaled nitric oxide treatment of PPH in newborns

The Neonatal-Perinatal Medicine Section at the University of Oklahoma Health Sciences Center has been selected to participate in a multicenter trial of inhaled nitric oxide (INO) in the treatment of persistent pulmonary hypertension (PPH) of the newborn. The assistance of Oklahoma physicians is being sought in referring infants for the trial.

Eligible patients are term newborns requiring mechanical ventilation and high oxygenation, with conditions such as meconium aspiration, sepsis, respiratory distress, and idiopathic. Infants who have received surfactant, are greater than 3 days old, or who have been treated with high frequency ventilation for greater than 6 hours are not candidates.

This is a randomized, double-blind, placebo-controlled, dose-response study of INO for the treatment of PPH. It is being conducted at 30 sites across the nation. The goal of the study is to reduce PPH major sequelae including the need for ECMO, chronic lung disease, neurologic sequelae, and death.

K.C. Sekar, MD, is the study's principal investigator; Mary Ann McCaffrey, MD, is co-principal investigator; and Mike McCoy, RNC, is the study coordinator.

One of the investigators will manage the patient's care around the clock. consent will be obtained at Children's Hospital of Oklahoma (CHO) if the patient meets stringent study entry criteria. Patients will receive one of 4 treatment gases until significant clinical improvement occurs. Each patient has a 75% chance of receiving INO. Patients who meet treatment failure criteria can be treated with one of the following methods: pharmacologic,

high frequency, or ECMO. Safety factors include methemoglobin and inspired  $\text{NO}_2$  level monitoring. The patient may be transferred back when stable. Neurodevelopmental and audiologic follow-up will be conducted at CHO. There are no additional financial costs to the parents.

The study criteria are as follows (\*=can be established at site of investigation):

**Inclusion.**— Gestational age  $\geq 37$  weeks; birth weight  $\geq 2500$  grams (unless term SGA);  $<72$  hours old; postductal arterial catheter\*; echocardiographic evidence of normal cardiac anatomy

with PPH criteria\*;  $\text{PaO}_2$  40-100 mmHg while receiving  $\text{FIO}_2=1.0$  and mechanical ventilation with a  $\text{Paw} >10$  cmH $_2\text{O}$ .\*

**Exclusion.**— IVH Grade 2-4\*; mean systemic arterial pressure  $<35$  mmHg; uncorrected Hct  $>70\%$ ; congenital heart disease\*; any previous treatment with surfactant;  $>6$  hours of high frequency ventilation; lethal physical or suspected chromosomal abnormality\*; clinical diagnosis of pulmonary hypoplasia, including congenital diaphragmatic hernia, uncontrollable coagulopathy, and/or serious bleeding\*; enrollment in another drug or interventional study.

For more information about the study, contact the Neonatology Section, OUHSC, 405-271-5215. To refer a patient or to consult with the clinical investigator on call, contact MediFlight Oklahoma, 1-800-522-0212.

## OU Family Medicine Center open for business



The University of Oklahoma Health Sciences Center's long-awaited facility to house family medicine faculty and clinics formally opened in January. It is located at 900 Northeast Tenth Street in Oklahoma City, just west of the Oklahoma State Department of Health. The \$7.75 million center features 68 examination rooms, five clinics, and a second floor devoted entirely to administrative and academic offices and support space. The first floor of the 71,000 square-foot building consists of clinics and clinical support areas such as laboratories, x-ray rooms, and examination and procedure rooms.

Shown at the ribbon-cutting ceremonies are Regent for Higher Education and



OSMA Past President Ed L. Colhaan, MD (second from left); then-Governor David Walters (center); and OUHSC Provost Joy H. Stein, MD (far right). Next to Dr. Stein is Oklahoma Academy of Family Physicians President Steven A. Crawford, MD.

## Annual Meeting (continued)

and resolutions will be voted upon. Immediately following the Closing Session, at 11:30 a.m., a PLICO Forum will conclude the schedule of events. Also scheduled is meeting of the OSMA trustees and council chairs, and an AMA delegation caucus.



## **Ahalaya Project providing assistance to HIV-infected Native Americans in OKC, Tulsa**

Case management services are now available to HIV-infected Native Americans through the Ahalaya Project. Ahalaya, with clinics in Oklahoma City and Tulsa, is run by Native Americans and endeavors to increase life expectancy and quality of life for its HIV-positive clients by offering a one-stop, client-centered approach which optimizes access to existing services in the community.

"HIV/AIDS poses a serious threat to the well-being of Native American populations," said Betty Duran, director of client services for the National Native American AIDS Prevention Center (NNAAPC) in Oklahoma City. "Reported AIDS cases of American Indians and Alaska Natives increased 63% from 1992 to 1993. As of December 31, 1994, the Centers for Disease Control and

Prevention (CDC) reported a cumulative, statewide total of 225 American Indians and Alaska Natives with HIV or AIDS. We hope to improve the lives of those native people who are already infected and prevent the spread and decrease the impact of HIV/AIDS on our small and diminishing communities."

Ahalaya services focus on stress reduction, preventive medicine, and healthy lifestyles in order to maintain client health, reduce the risk of opportunistic infections, and slow disease progression. Services provided by Ahalaya's case management staff include client assessment, medical care plan development, referrals to needed services, and direct service to clients.

Case managers help clients gain access to traditional Native American healing, alcohol and substance abuse coun-

seling, low-cost pharmaceuticals, home health care, low-cost transportation, low-income housing, and food stamps. Ahalaya also provides aid in applying for Social Security/SSI/Disability and other programs.

Additionally, the project provides social and psychological support to Native Americans affected and infected by HIV/AIDS, including a quarterly client newsletter, Indian child welfare support services, referrals to community mental health centers, suicide prevention/intervention, and support group activities. Clients, who are sometimes rejected by relatives because of their HIV-positive status, often see project staff as a second family.

In order for an individual to become a client of the Ahalaya Project, he/she must be HIV positive and have verification of Native American ethnicity, such as a Certificate Degree of Indian Blood (CDIB) or a tribe-issued enrollment card. The project currently provides services



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## Ahalaya Project *(continued)*

to more than 50 men and women between ages 22 and 51. These clients represent 20 tribes from four different states.

In addition to case management services, Ahalaya provides free, confidential HIV antibody testing and maintains a toll-free phone number for clients and those seeking HIV/AIDS information. The number (800/358-6080) is accessible only in Oklahoma. The project also offers HIV/AIDS training workshops for the Indian Health Service and other healthcare facilities; community outreach services; and training for tribal leaders.

The Ahalaya Project is a non-profit organization with offices in both Oklahoma City and Tulsa. In 1993, NNAAPC received funding to replicate the Ahalaya Case Management Model in 10 other cities.

In 1991, NNAAPC founder and Executive Director Ron Rowell (Choctaw) wrote a grant request to the Health Resources and Services Administration for monies to address the needs of HIV-positive Native Americans. NNAAPC was awarded a grant under Title II of the Ryan White CARE Act for a case management research project to serve native people in Oklahoma. Rowell called the project *Ahalaya*, a Choctaw word meaning "to care for deeply."

Rowell recruited Gloria Bellymule, RN, (Cheyenne-Arapaho) who had been working with HIV-positive American In-

dians at the Oklahoma City Indian Clinic since 1985, to manage the project.

The Ahalaya Project is a unit of NNAAPC. NNAAPC's mission is to stop the spread of HIV and related diseases among American Indians, Native Hawaiians, and Alaska Natives by improving their health status through empowerment and self determination. It serves as a resource to native communities and supports community efforts by providing education and information services, thereby enhancing the physical, spiritual, and economic health of native people. J

## HEALTH DEPARTMENT

### **Lead poisoning prevention plan now in place to screen children**

Lead poisoning is one of the most common and preventable pediatric problems today. Young children engage in hand-to-mouth activity which makes them most vulnerable to the effects of lead. Children absorb a greater percentage of lead per body unit. The rate of lead absorption in children is dependent upon how the child is exposed and the physiological characteristics of the child. Lead affects every system in the body, but is particularly harmful to the developing brain and nervous system of fetuses and young children.

On September 1, 1994, House Bill 2497 became law. Through this legislation, the Oklahoma Childhood Lead Prevention Program was established; it is coordinated by the Pediatric Division of the Oklahoma State Department of Health's Child Health and Guidance Service.

#### **Who should be screened?**

Following the Centers for Disease Control and Prevention (CDC) recommendations, all children 6 months to 6 years of age in the United States should be screened

#### **How are children exposed?**

Children are exposed to lead by different sources (such as paint, gasoline, and solder) and through different pathways (such as air, food, water, dust, and soil). Other sources of contamination can be parental occupations and hobbies and, for some children, "traditional" medicines or home remedies.

#### **Who are the participants?**

The initiative depends on close collaboration between state and local health departments as well as private physicians, community clinics, Indian Health Services, and other state and local agencies.

#### **How Does it Work?**

- ◆ Each child receives a verbal risk assessment starting at 6 months of age.
- ◆ If a risk factor is identified, a capillary or venous blood test is obtained.



### **Central Oklahoma Habitat for Humanity announces**

#### **The First Annual "Aces for Places" Tennis Tournament**

**April 21 - 22**  
Santa Fe Club  
6300 North Santa Fe  
Oklahoma City, OK 73118

**For Registration and Sponsorship  
Information please call:**

**(405) 524-7151**

**All proceeds benefitting  
Central Oklahoma Habitat for Humanity**

## Lead poisoning (continued)

♦ A capillary or venous blood test is obtained at 12 and 24 months of age regardless of the risk factors.

♦ If a child older than 24 months of age has not had a blood lead screening or a capillary test, one will be obtained regardless of the risk factors.

♦ The Centers for Disease Control recommends that a child with a capillary blood lead level  $\geq 15 \mu\text{g/dL}$  be confirmed with a venous blood lead test. Medicaid requires a venous confirmation test of children with lead levels of a  $\geq 10 \mu\text{g/dL}$ .

♦ Each child's findings are individually assessed and recommendations are made to decrease blood lead levels and eliminate lead exposure.

### What blood lead level is considered elevated?

$\leq 9 \mu\text{g/dL}$  — Child is not considered to be lead poisoned.

$10-14 \mu\text{g/dL}$  — This level is considered to be borderline elevated. If a large proportion of children have high levels in this range, community-wide lead poisoning prevention, should be initiated. Children at this level may need to be screened more frequently.

$15-19 \mu\text{g/dL}$  — Parents should receive education regarding diet, cleaning, etc. A test for iron deficiency anemia may be needed. If the level persists in this range, environmental investigation and intervention should be done.

$20-44 \mu\text{g/dL}$  — A child within this range should receive medical and environmental evaluation. This child may need pharmacologic treatment of lead poisoning.

$45-69 \mu\text{g/dL}$  — This child will need medical and environmental interventions within 48 hours.

$\geq 70 \mu\text{g/dL}$  — This is a medical emergency. Medical and environmental management must begin immediately.

### What is the goal?

Eliminate lead hazards before children are poisoned.

Need more information? Call the Oklahoma State Department of Health, Child Health and Guidance Service, Pediatric Division, at 405-271-4471 or 1-800-766-2223.

## LETTERS

### OSMA trustees assure survey's honesty

*To the Editor:* Doctor Keith Smith's letter to the JOURNAL [Jan. 95] expressing concern about OSMA's decision to use the AMA's resources in conducting a survey regarding unified membership is well intended and deserves a response from the OSMA leadership.

First, some background—at last year's OSMA Annual Meeting, Doctor Patrick Lester submitted a resolution to the delegates that recommended OSMA rescind its policy of unified membership. Doctor Lester's petition was precipitated by action of the AMA House of Delegates that amended its bylaws to prohibit discrimination on the basis of a physician's sexual orientation. The resolution engendered heated debate that eventually focused more on the historical OSMA/AMA relationship than the issue that created the resolution. Our House of Delegates noted that the members had not been consulted on this matter in some time and instructed the Board of Trustees to survey OSMA members on the requirement for unified membership and to report to the house at this year's annual meeting.

As one of five unified states, OSMA does have a special status with the AMA. As a result, the AMA's Division of Membership was asked to assist the OSMA in the initial development of the survey. The final questionnaire was carefully reviewed and approved by OSMA President Jay A. Gregory MD, and Chair of the Board of Trustees Douglas C. Hubner, MD, making Dr. Smith's fear that the AMA might bias the survey unnecessary.

Doctor Smith continues his letter with severe criticism of AMA policy which in his words "...failed miserably at the national level." While all of us may be critical of parts of the AMA's actions on the health system reform debate, we must acknowledge that when Senator George Mitchell pronounced the health system reform dead, the only voice left speaking for patients and their physicians was the AMA. A plethora of medical organizations "missed the cut" at various steps during the debate because of their commitment to certain principles that did not stand the long-term test of acceptance. The AMA wisely neither endorsed nor opposed any plan but stood steadfast to the position of "voice" and "choice" for patients and physicians. Most of us will acknowledge that the AARP/AFL-CIO debate was serious and ill-fated, but also recognize that the staff responsible for that endeavor are no longer employed by the AMA.

I want to assure Doctor Smith and all members of the OSMA that your Board of Trustees will make certain that the survey conducted by the AMA is honest and conducted in a professional manner and that the results will be accurately tabulated when distributed to the House of Delegates.

—Douglas C. Hubner, MD  
Chair  
OSMA Board of Trustees

*Note: Part of the JOURNAL's mission, as stated annually in its report to the OSMA Board of Trustees and House of Delegates, is "to serve as an open forum for the exploration and discussion of issues vital to the physicians of Oklahoma." Readers are encouraged to express their opinions in this column. Letters should be addressed To the Editor, The JOURNAL, Oklahoma State Medical Association, 601 Northwest Expressway, Oklahoma City, OK 73118.*



## DEATHS

### **Clifford Jennings Blair, MD 1912 - 1995**

Clifford J. Blair, MD, retired Oklahoma City ophthalmologist, died February 10, 1995. A Life Member of the OSMA, Dr. Blair was born in Keota, Okla., and attended the University of Oklahoma School of Medicine, earning his degree in 1939. During World War II, Dr. Blair served a total of five years on active duty with the U.S. Army Medical Corps, retiring as a Lieutenant Colonel.

### **Wallace Byrd, MD 1905 - 1995**

OSMA Life Member Wallace Byrd, MD, longtime Coalgate general practitioner, died January 25, 1995. Dr. Byrd was born in Kissimmee, Fla., in 1905, the son of a physician. He was graduated from the University of Florida and after one year in Harvard law school, began his medical education at the University of Chicago. He earned his medical degree there in 1935 and completed a master's degree in public health at the University of Kentucky. Dr. Byrd practiced medicine in Kentucky, Texas, New Mexico, and Ada, Okla., before moving to Coalgate in 1950.

### **Herbert Victor Lewis Sapper, MD 1920 - 1995**

Oklahoma City pediatrician Herbert Sapper, MD, died January 26, 1995. A 1944 graduate of the University of Oklahoma School of Medicine, Dr. Sapper completed his internship at the University of Colorado Medical Center and his pediatrics residency at the University of Colorado Medical Center. During World War II, Dr. Sapper served on active duty overseas with the U.S. Army, attaining the rank of captain. In addition to his private practice in Oklahoma City, he also was an instructor in pediatrics at the University of Oklahoma. □

## IN MEMORIAM

### 1994

Kirk Thornton Mosley, MD .....	January 3
Richard Charles Wade, MD .....	January 6
Austin Walsh Webb Haddox, MD .....	January 13
Earl Mathews Woodson, MD .....	February 20
Tom Lamar Johnson, MD .....	March 5
Orville Main Rippey, MD .....	March 11
Minor Elliott Gordon, MD .....	March 14
George Loren Norris, MD .....	March 27
Max A. Glaze, MD .....	April 29
Winfred Aaron Showman, MD .....	May 14
Mark Daniel Holcomb, MD .....	June 1
Carter William Mathews, MD .....	June 3
Frank Wilson Clark, MD .....	June 6
Harold Ray Sanders, MD .....	June 15
Robert Bruce Howard, MD .....	June 16
Richard Warren Loy, MD .....	July 7
John Hobson Veazey, MD .....	July 11
Wesley A. Whittlesey, MD .....	July 12
Laurence Sevier McAlister, MD .....	July 19
Jon Meyer Chenette, MD .....	August 4
Beryl Drew Henwood, MD .....	August 14
Jess Duval Herrmann, MD .....	August 16
Jose J. Guijarro, MD .....	November 11
Haven Winslow Mankin, MD .....	November 14
Dalton Blue McInnis, MD .....	November 26

### 1995

Robert M. Wienecke, MD .....	January 3
Mason Russell Lyons, MD .....	January 6
Wallace Byrd, MD .....	January 25
Herbert Victor Lewis Sapper, MD .....	January 26
Clifford Jennings Blair, MD .....	February 10

## CLASSIFIEDS

Classified ads are 50 cents a word, with a minimum of \$25 per ad. A word is one or more characters bounded by spaces. Box numbers will be assigned upon request and will add 6 words to the total. Payment must accompany all submissions. Orders will NOT be accepted via telephone or fax. Mail ad with payment to OSMA JOURNAL, 601 Northwest Expressway, Oklahoma City, OK 73118. Deadline is the first of the month preceding the month of publication.

### Physicians Wanted

Oklahoma: Opportunities now exist near Oklahoma City and Tulsa for emergency medicine physicians. Volumes range from 7,000 - 25,000 annually with remuneration competitively set. Flexible scheduling and malpractice insurance procurement assistance make these practices even more attractive. For more information, call Chery Armstrong at 1-800-745-5402 or send your CV to Coastal Physician Services of the West, Inc., 3010 LIBJ Freeway, Suite 1300, Dept. SM, Dallas, TX 75234. FAX: 214-484-4395.

### Practices Available

Solo practice and Clinic in El Reno, OK, 30 miles West of Oklahoma City, OK, on I-40 for sale. Local hospital privileges. Call 405-262-2669 (office) or 405-262-4604 (home).

**OSMA TOLL FREE  
1-800-522-9452**



# Memo

To: **President Clinton  
Members of the House and Senate**

From: **The 300,000 member physicians of the  
American Medical Association**

Re: **Getting the job done on health care**

We believe there are several workable measures that can be passed now to help achieve our ultimate goal – making quality health care affordable and accessible to all Americans.

As the country awaits the State of the Union address, the member physicians of the American Medical Association set forth these practical recommendations to improve health care for our patients.

**Insurance Reform** – Pass insurance reforms that will make sure Americans will not lose their coverage if they change jobs or get sick.

**Medicare Reform** – Reform our Medicare system so it will be there for the next generation of elderly and disabled.

**Medical Savings Accounts** – Make MSAs available so people can pay for routine medical care with pre-tax dollars.

**Patient Protections** – Enhance patient choice, disclosure and assure greater physician involvement in corporate decisions about patient care.

**Liability Reform** – Enact meaningful liability reform to ensure fair compensation to patients with legitimate claims while eliminating excessive malpractice awards that lead to defensive medicine.

**Regulatory Relief** – Free both physicians and patients from the ever-increasing burden of needless and wasteful paperwork, regulations, obsolete anti-trust rules and red tape.

**Medical Education and Research** – Protect medical education and research so that we can find cures for killers like AIDS and cancer.

**Public Health Problems** – Fight social problems like violence and smoking — problems that cost billions of dollars and millions of lives.

These measures are sensible things we can do now that will make a difference for all of us. So, as we begin our nation's 104th Congress, we renew our pledge to the health of America. As the voice of the medical profession, we pledge to do everything we can to help make these things happen. It is our contract with America, and we fervently hope that every American will join us.

American Medical Association  
Physicians dedicated to the health of America



REPUTATION

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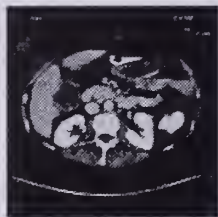
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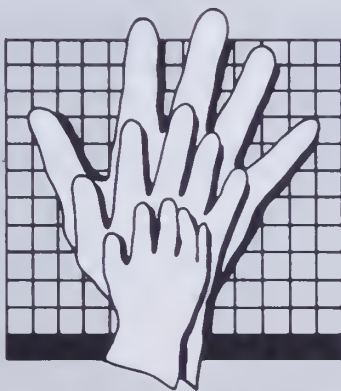
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## OSMAA State Convention

The OSMAA Annual Meeting will be held April 6-8 in Oklahoma City at the Marriott Hotel. The convention officially begins with the pre-convention board meeting scheduled for 3:00 PM on Thursday, April 6. Following the meeting, dinner will be planned to greet our special guests, Sharon Scott, president-elect of the AMA Alliance and Joanne Daus, president of the Southern Medical Association Auxiliary. Everyone is invited to join us.

Friday morning will begin with a breakfast honoring our past presidents, a breakfast for county presidents and presidents-elect, and a continental breakfast for delegates. The House of Delegates meeting will begin at 9:00 AM. At noon we will join the OSMA at a luncheon with Oklahoma Governor Frank Keating as the invited speaker. After the luncheon, the alliance will conclude their meeting with the installation of officers for 1995-96.

The alliance is having a high tea on Friday afternoon from 4:00 to 6:00 to benefit AMA-ERF. Everyone is invited to attend. During the tea, the theme baskets from every county will be silently auctioned, with proceeds going to the medical school of your choice.

The alliance adjourns the business portion of the convention on Saturday morning after a post-convention meeting of the newly installed board. The convention will conclude with the OSMA and OSMAA Presidents' Reception and Banquet which will be held Saturday night at the National Cowboy Hall of Fame and Western Heritage Center.

—Diane S. Cooke  
State Convention Chair, 1994-95



■ **Honored at this year's "Evening of Excellence"** January 26 was John R. Alexander, MD, Tulsa. Dr. Alexander is a past president of the OU College of Medicine Alumni Association and the Oklahoma State Medical Association and currently vice-president for medical affairs at St. John Medical Center. The black-tie event, sponsored by the University of Oklahoma College of Medicine Alumni Association, is a joint project of the medical and business communities. Dr. Alexander received the Dean's Award for Distinguished Medical Service, while George Nigh, president of the University of Central Oklahoma and former state governor, received the Dean's Award for Distinguished Community Service. The event was held at the Marriott Hotel in Oklahoma City. Proceeds from the annual event go to the College of Medicine's research fund.

■ **The OUHSC Office of Continuing Education has been** officially renamed the Irwin H. Brown Office of Continuing Medical Education, in honor of the late Dr. Irwin H. Brown, tireless advocate and sponsor of continuing education. A reception was held February 16 in the Robert M. Bird Library foyer at OUHSC to mark the occasion.

■ **Tulsa County Medical Society (TCMS) will be led this** year by President David J. Confer, MD, along with President-Elect W.F. Phelps, MD; Vice-President Michael B. Clendenin, MD; and Secretary-Treasurer William A. Geffen, MD. Remaining board members are Drs. Barbara A. Hastings, C. Wallace Hooser, Kenneth A. Muckala, Howard A. Shaw, Casey Truett, John S. Watson, Boyd O. Whitlock, and James A. Young.

■ **John B. Nettles, MD, Tulsa obstetrician-gynecologist,** has received the Young at Heart Award from the American College of Obstetricians and Gynecologists. The award recognizes a physician whose support and guidance have been invaluable to young physicians.

■ **Tulsa pediatric resident Doug Evans, MD, was featured** recently in a full page feature article in the *Tulsa World*. Dr. Evans' study on attention deficit disorder (ADD) found that children from Tulsa's low-income families are not being diagnosed and treated for ADD at the same rate as middle-class students. The study focused on public schools and is to be followed with a study of private school students.

■ **Dr. Michael L. Winzenread was installed January 21** as the 95th president of the Oklahoma County Medical Society. His Inaugural Ball was held at Quail Creek Golf and Country Club in Oklahoma City. Dr. Winzenread, a family practitioner and 1975 graduate of the University of Oklahoma College of Medicine, succeeds Dr. Philip Mosca. Filling out the slate of officers with Dr. Winzenread will be President-Elect Alice E. McInnis, MD; Vice-President Russell G. Postier, MD; and Secretary-Treasurer J. Christopher Carey,

MD. Board members in addition to the officers are Drs. Michael Terry Anderson; John R. Bozalis; Edward N. Brandt, Jr.; Stephen K. Cagle; Glenn P. Dewberry, Jr.; Royce B. Everett; Vadakepat Ramgopal; Richard V. Smith; Rebecca Goen Tisdal; and Robert L. Wilson.

■ **Mayo Clinic researchers are concerned that seriously** injured student athletes between the ages of 15 and 24 may be at increased risk for depression and possible suicide. A January report in the *Journal of Athletic Training*, published by the National Athletic Trainers' Association (NATA), details the literature review which was precipitated by the attempted suicides of five injured adolescent athletes over a two-year period. The athletes shared several common factors, say authors Eric K. Milliner, MD, and Aynsley N. Smith, a nurse counselor: (1) considerable athletic success before sustaining injury; (2) a serious injury requiring surgery; (3) a long, arduous rehabilitation with restriction from their preferred sports; (4) a lack of pre-injury competence on return to sport; and (5) being replaced in their positions by teammates. Smith points out that in two Mayo Clinic studies on athletes, the severity of the injury based on time lost from participation was the greatest predictor of depression. The authors suggest athletic trainers use a screening survey called the Emotional Responses of Athletes to Injury Questionnaire (ERAQI). For more information, call Kay Barkin at the NATA, 214-528-6023.

■ **Tulsa John G. Campbell, MD, is the new chairman-**elect of the Board of Governors of the American Academy of Otolaryngology—Head and Neck Surgery.

■ **Psychiatrist R. Murali Krishna, MD, has been elected** chief of staff at St. Anthony Hospital in Oklahoma City. Dr. Krishna also serves as executive medical director of the SHARE Psychiatric Day Treatment Center and is immediate past chairman and medical director of the Department of Psychiatry at the hospital. He is also a clinical professor at OUHSC.

■ **The Tulsa County Medical Society Centralized Creden-**tialing Collection Service has changed its name to Oklahoma Centralized Verification Organization. Effective February 1, the name change reflects the growing scope of marketing operations for the seven-year-old operation. In announcing the change, TCMS President David J. Confer, MD, said, "the TCMS board realized that while the service was created and will continue to be managed by TCMS, it must also reflect a statewide image."

■ **Oklahoma City physician D. Robert McCaffree, MD,** a pulmonary disease specialist, was recently the only Oklahoma physician to be named among *Town and Country's* top physicians in the United States. The listing appeared in the magazine's February issue.



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## Trained Bears and Tambourines

Early in the days of this nation, particularly in the settlements of the frontier, there was a unique breed of traveling tradesmen. Devoted to the concept that a fast buck could be earned from a gullible public, charlatans of all types and vendors of sundry patent medicines thrived. Physicians of dubious honor preyed upon the ignorant, the scared, the worried, and the willing, though unwitting, victims. Quackery was omnipresent, lucrative, and successful. Newspapers, magazines, handbills, and word of mouth spread promises of good looks, glowing health, greater potency, and general well being if only the desirous would take advantage of the potion, salve, mechanical tractors, laying on of hands, or incantation of the one whose hand was outstretched for the coin of the time.

Since the end of the Second World War there has been a decline in the prevalence of the more ridiculous of these activities. Scientific advances, public education, and regulatory agencies have done much to abolish the patently dangerous and obviously more dishonest practices. Nevertheless we continue to see the victimizers and the victims; they will always be with us in one form and another.

During the past ten years a trend has developed that is beginning to assume some of the features of charlatanism—not necessarily in a sense of dishonest or incompetent practice but in the manner in which medical skills are presented to the public. Newspapers, telephone business directories, full-page color presentations in regional editions of national magazines, and radio advertisements all can be found containing egregious physician promotional materials addressed to consumers (as they are called today). Glowing in nature, they promote some procedure, skill, virtue, or practice specialty of that particular physician or group of physicians. The eye surgeon promotes surgical treatment of cataracts and refractive disorders through “meetings” and “classes” (the announcement warns, “call early to assure yourself a seat”) clearly designed to attract willing sources of cases. Liposuction, beautifying chemical face peels, and other ego boosting procedures are widely offered. Advertisements claiming particular spiritual features of a practice or practitioner can be found, and although the presence of spirituality within the practice of medicine is a virtue, its promotion for financial gain is not.

Allowed to be conducted to its extreme, physician advertisements to the public can only lead the medical profession from what was once a place near the pinnacle of public opinion to the gutter of public scorn. Shall we wait to see television ads with doctors resembling the automobile salesman, running from one vehicle to another while screaming frenetically about selling “under dealer invoice” a particular procedure or medical appliance? Do we want to see “before and after” examples used by our colleagues who will advertise?

The Oklahoma Allopathic Medical and Surgical Licensure and Supervision Act as amended July 1, 1994, Section 509 states: “The words *unprofessional conduct*... as used in Sections 481 through 514 of this title are hereby declared to include but shall not be limited to, the following... advertising to the public in any manner; provided, however, that a person, firm, association or corporation may place an announcement in a newspaper regarding the opening of an office, change of address or membership in a firm, association or corporation, the closing of an office, permanent or temporary, for whatever reason, and the specialty or specialties of person or persons, firm, association or corporation;...”

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The First Amendment to the Constitution of the United States of America affords freedom of speech and freedom of the press, and I suppose the right to advertise is by some provision a part of these freedoms. I have also heard it said that you cannot legislate morals or manners, but it seems we should be able to regulate that which detracts from or contributes to the dignity of what Hippocrates called this most “noble art.”

The days of the traveling medical huckster have long been gone and should never return, but they may—complete with trained bears and tambourines.

—O.W. Dehart, MD  
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## The Demons Within

Recent events in the life of our association have caused me to recall the admonition of Pogo: "We have met the enemy and it is us." In recent months we have traveled extensively throughout the state, meeting with groups of physicians who are members or our association. I can't recall a time in the past 20+ years that I have been involved in the Oklahoma State Medical Association, when I have seen such extreme concern by our members about the current status of the practice of medicine. The major cause for this anxiousness is the instability in which we find ourselves, being unable to have control over the way we take care of our patients. The fear and the frustration in which we find ourselves is generated basically by the fear of the unknown. We are not exactly sure as to what environment we are going to be allowed to practice medicine. We are fearful of others who are exerting increasing control over our lives, who don't necessarily have the best interest of the physician and the patient at heart.



So I think we are all trying to find someone or something to blame for the dilemma in which we find ourselves. Thus it is that I recall Pogo's statement. I would suggest that the enemy is not the American Medical Association nor the Oklahoma State Medical Association nor the Oklahoma County Medical Society nor any other constituent society within our state association. Rather, I would suggest that the enemy is probably the demons that reside within us at this point in time. Those demons wear many masks. Those demons come disguised as intolerance,

contempt, distrust, rigidity, hatred, discontent, self-pity, suspicion, and jealousy. I feel that it is a cluster or a combination of any number of these demons that has driven some of the actions of some members of our association in recent weeks. I've had the unpleasant experience of observing some physicians over-reacting to people, information, and/or situations without apparently taking the time to carefully research the facts and the truth regarding the matter. This lashing out or striking back that I have observed in recent weeks is destructive and can do nothing more than continue to complicate the situation in which we find ourselves. The behaviors have been divisive, have turned reasonable people one against the other.

Our adversaries would enjoy nothing more than to see us fracture and fragment our association and our will to remain unified on important matters that concern us. There have been many attempts in the past by those who would seek to change or alter our profession under the guise of health care reform. These adversaries lie in waiting seeking any opportunity to divide and conquer.

It is for these reasons and for the salvation of a profession which we hold so dearly that we must put aside our territorial disputes, our personal agendas, and animosities to come together to work for the common good of our members and the patients whom we all serve. Priorities must be re-established. Opportunities must be identified and seized to take back the control that we are slowly losing over our ability to do that which we do best.





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## Right Diaphragmatic Paralysis Following Orthotopic Liver Transplantation

Ahmet Gurokor, MD; Torek Hossonein, MD; David H. Von Thiel, MD

Although most postoperative complications of liver transplantation are well known and their pathophysiology is reasonably understood, right diaphragmatic dysfunction occurring after liver transplantation remains an unappreciated complication. To evaluate the incidence and mechanisms responsible for such injury, a group of 48 liver transplant patients were studied prospectively. Partial right diaphragmatic paralysis was found in 11 (23%), complete paralysis was found in 10 (21%) and the remaining 27 patients had normal diaphragmatic motion (56%). The operative records of these 48 patients were reviewed. Right diaphragmatic injury was found to be a common postoperative complication of liver transplantation. Moreover, it was found to have a clinically significant effect upon the postoperative course of these patients, often necessitating a prolonged ICU stay and prolonged ventilatory support. Although the exact mechanism responsible for its occurrence remains speculative, careful attention to operative technique particularly in the dissection of the upper cava and careful closure of the bore of the diaphragm, may reduce the frequency of this untoward complication.

**P**ulmonary complications are a major clinical problem in liver transplant recipients in the immediate postoperative period. The precise rea-

sons for the high incidence of pulmonary problems seen following liver transplantation in the first several weeks following orthotopic liver transplantation have not been assessed previously.

The possibility that right phrenic nerve injury produced during the transplant procedure may account for at least some of these problems as evaluated in the present report.

### Materials and Methods

Forty-eight liver transplant recipients who were to have a liver biopsy for clinical indications from January 1992 to May 1992 were included in the study. Each patient had a liver biopsy performed to evaluate some abnormality of liver function as assessed by standard liver injury tests. The biopsies were performed under fluoroscopic control by one of the investigators (DVT) and included an examination of the motion of the right hemidiaphragm. All biopsies were performed percutaneously using a fourteen gauge Tru-Cut needle (Baxter, Valencia, Calif.).

The study population consisted of 32 men and 16 women with a mean age of 41 years and ranging from 16 to 60 years. All had received an orthotopic liver transplant for advanced end-stage liver disease. The primary liver diseases for these 48 patients were as follows: hepatitis B in 9, hepatitis C in 10, alcohol abuse in 8, primary sclerosing cholangitis in 4, primary biliary cirrhosis in 3, autoimmune hepatitis in 2, alpha-1-antitrypsin deficiency in 1, biliary atresia in 1, hemochromatosis in 1, and no specific diagnosis established in 8 (cryptogenic cirrhosis).

All patients had their liver transplantation

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performed using one of two standard techniques—either the classical orthotopic liver transplant procedure with venovenous bypass or the piggyback technique. All patients were hospitalized in a specialized liver intensive care unit during the immediate postoperative period until they were ready for transfer to a regular hospital floor. Chest x-rays (CXR) were obtained daily in the intensive care unit, every week on the ward, and as indicated during the subsequent out-patient follow-up.

The charts of these patients as well as their operative records were reviewed. The following data were specifically sought: CXR results pre- and postoperatively, primary disease diagnosis, gender, age, preoperative status, preoperative pulmonary function test results, operative time, operative difficulty, blood replacement during surgery, the use of venovenous bypass, the length of ICU stay, the length of endotracheal intubation, episodes of extubation failure, need for a tracheostomy, need for a chest tube, respiratory complications, duration of postoperative hospital stay, and clinical performance when last seen in the outpatient department.

Although diaphragmatic dysfunction was not specifically evaluated preoperatively in these patients, all of them had a chest x-ray and pulmonary function tests done preoperatively which could be used as a means of assessing their pulmonary and diaphragmatic function prior to transplantation.

One-way analysis of variance with the Tukey multiple comparison procedure and the chi square test were used for statistical analysis. A *p* value less than 0.05 was considered to be significant.

## Results

There were no indications on history or physical examination prior to liver transplantation of any pre-existing pulmonary disease in any of the patients in this series. None had undergone previous thoracic surgery. Preoperative chest x-rays were normal in all but two patients who had mild bilateral pleural effusions.

Upon evaluation of the motion of the right hemidiaphragm during the liver biopsy procedure, 27 patients were found to have normal diaphragmatic motion (Group 1), 11 had partial paralysis (reduced motion) (Group 2) and 10 had complete right hemidiaphragm paralysis (either no motion or paradoxical motion) (Group 3). The mean age of the patients in Group 1 was  $43 \pm 1.7$  years; it was  $36.5 \pm 2.5$  years in Group 2 and  $44.9 \pm 2.0$  years in Group 3. There were no significant differences in these three groups as to

their age, gender, or the nature of their primary liver disease.

The liver biopsy and right hemidiaphragm evaluation was performed on average  $14.4 \pm 3.8$  months post-liver transplantation in Group 1,  $13.3 \pm 3.9$  months in Group 2, and  $15.9 \pm 3.3$  months in Group 3 (NS).

Important measurable operative and early postoperative events for these patients are presented in Table 1. The operative times were similar for all three groups; the operative blood replacement requirement was greater for Groups 2 and 3 as compared to Group 1, although these differences did not achieve the level of statistical significance. The operative difficulties experienced in these cases are also documented in Table 1. Seven of 11 patients in Group 2 with partial right hemidiaphragmatic paralysis and all 10 patients in Group 3 with complete paralysis experienced some operative difficulty. The differences in rates of operative difficulty were statistically significant (*p* < 0.05) between Groups 1 and 2 and between Groups 1 and 3 but not between Groups 2 and 3.

Several important events in the postoperative course of the patients in this series also are presented in Table 1. The duration of ICU hospitalization, duration of endotracheal intubation, and the mean hospital stay were all greater in Groups 2 and 3 as compared to Group 1; however, only the ICU hospitalization and the length of endotracheal intubation were statistically significantly different (*p* < 0.05) between Groups 1 and 3.

Finally, the postoperative respiratory complications are also listed in Table 1. Three patients, who had complete right hemidiaphragmatic paralysis, failed a trial of endotracheal extubation and had to be reintubated; two of them ultimately required tracheostomy and ventilatory support for a total of 52 and 54 days, respectively. Neither of these two patients had any pulmonary dysfunction preoperatively, and neither was intubated preoperatively. Atelectasis, right pleural effusion, and the need for insertion of a right chest tube were each present more frequently in Groups 2 and 3 as compared to Group 1 (*p* < 0.05). No differences in these parameters between Groups 2 and 3 were evident.

## Discussion

Little is known about diaphragmatic dysfunction following liver transplantation. To our knowledge, this is the first comprehensive report about this issue. Graft failure and technical complications are the main causes of early postoperative mortality and morbidity. Respiratory failure un-

Little is known about diaphragmatic dysfunction following liver transplantation.



Table 1. Operative and Perioperative Events

	Operative Time (hrs)	Blood Product Requirement	Operative Difficulty	Length of ICU Stay (days)	Duration of Intubation	Hospital Stay (days)	Failure of Extubation	Right Pleural Effusion	Chest Tube (?)	Atelectasis (?)
Group I (n=27)	9.3±0.4	11.1±1.8	37%	6.2±1.6	2.5±0.2	25.4±2.5	0	7.4%	3.7%	3.7%
Group II (n=11)	10.9±0.7	17.9±4.8	63.6%	12.6±2.6	5.3±0.8	31.7±4.2	0	81.8%*	45.4%*	45.4%*
Group III	10.8±0.9	20.8±4.6	100%	17.6±6.1	12.6±5.2*	39.6±7.9	30%*	100%*	80%*	60%*

\* p<0.05 compared to Group I

related to the latter, in the form of atelectasis, pneumonia, or the need for long-term ventilatory support, represent a common additional cause of prolonged ICU hospitalization that is responsible for a high rate of postoperative morbidity in liver transplant recipients.

The evaluation of diaphragmatic function in a postoperative liver transplant recipient varies as a function of the status of the patient. A chest x-ray obtained in deep inspiration may suggest a diagnosis of diaphragmatic paralysis if a unilateral elevation of the diaphragm of more than one intercostal space is noted.<sup>1</sup> Most critically ill post-liver transplantation patients are intubated and ventilated with continuous positive pressure which makes the diagnosis of a diaphragmatic paralysis unreliable if such a diagnosis is based solely on the reading of a chest film obtained in the intensive care unit under such conditions. This may account for the frequent lack of appreciation of such injury in post-liver transplant patients. Fluoroscopy and real time ultrasound are standard methods used for the diagnosis of diaphragmatic dysfunction.<sup>1</sup> The former technique was used in this series to evaluate diaphragmatic function being utilized at the time of a post-transplant liver biopsy.

The most common cause of acquired diaphragmatic pathology is a phrenic nerve injury. Phrenic nerve injury can occur as a consequence of a viral infection (poliomyelitis, cytomegalovirus, and Guillain-Barré) or be a result of an acquired injury such as the insertion of a chest tube,<sup>2</sup> surgical trauma,<sup>3</sup> internal jugular vein cannulation,<sup>4</sup> or physical cooling of the phrenic nerve.<sup>5</sup> Injury secondary to nerve cooling is the most common cause of phrenic nerve injury occurring following cardiac surgery<sup>5,6</sup> and is thought to be the result of a hypothermic injury to the left

phrenic nerve caused by the ice slush topical hypothermia used during open heart surgery.<sup>6</sup>

The mechanisms responsible for phrenic nerve or diaphragmatic injury after liver transplantation are not well known. No study is available to support any particular hypothesis about its pathogenesis. The close proximity of the right phrenic nerve to the hiatus of the inferior vena cava in the diaphragm and the radial branching of the phrenic nerve to the right hemidiaphragm make the application of the upper caval vascular clamp and the closure of the bare area of the liver, two potential situations wherein phrenic nerve injury is likely to occur during a liver transplant. All patients in the present report, who had complete right diaphragmatic paralysis, either had some form of documented operative difficulty with the upper caval dissection or experienced significant bleeding from the bare area of the liver requiring multiple sutures, often placed with deep bites being utilized to control the bleeding. Although no phrenic nerve conduction studies were obtained in this series, injury to the phrenic nerve at other levels would appear to be unlikely. Internal jugular vein cannulation during anesthesia as a possible cause of phrenic nerve injury has been reported previously<sup>4</sup>; however, the absence of left-sided phrenic nerve injury, the site at which venous cannulation is normally performed, makes this possibility unlikely as a cause for the right hemidiaphragmatic dysfunction seen in the patient reported.

A cooling injury of the phrenic nerve, as occurs during cardiothoracic surgery, usually recovers spontaneously within three to six months,<sup>5</sup> but occasionally recovery can be delayed up to 14 months and, rarely, may not occur at all.<sup>7</sup> The time required for recovery depends on the rate of regeneration of the nerve fibers of the phrenic nerve.

Fortunately,  
unilateral  
paralysis of the  
diaphragm  
does not lead  
to respiratory  
failure in  
otherwise  
healthy  
individuals.

This has been estimated to be 1 mm per day.<sup>7</sup> The shorter distance from the presumed site of injury, in liver transplant patients, to the muscle fibers, and the finding of persistent right hemidiaphragmatic paralysis at an average of 12 months postoperatively makes the likelihood of spontaneous recovery of this injury in liver transplant recipients unlikely. The number of patients who may have recovered from such injury during the immediate postoperative period, however, cannot be inferred from this study. The existence of such cases would only increase the frequency of this injury which, even with their exclusion, appears quite common. If the hypothesis that a crush injury to the phrenic nerve occurs when a vascular clamp is applied to the upper cava during the orthotopic liver transplant procedure is correct, spontaneous recovery of such an injury is unlikely. An average of one hour of vascular clamping with resulting ischemia of the phrenic nerve typically occurs during an orthotopic liver transplant procedure.

Fortunately, unilateral paralysis of the diaphragm does not lead to respiratory failure in otherwise healthy individuals<sup>8,9</sup>; its presence, however, does lead to a reduction in the forced vital capacity, and in the forced expiratory volume at one second of about 25%.<sup>8</sup> Normally, the intercostal muscles and accessory respiratory muscles are able to compensate for such a deficit. These muscles are known to be inhibited during rapid eye movement sleep which may contribute to the development of nocturnal hypoxia in some patients.<sup>10</sup> The impact of diaphragmatic paralysis upon patient recovery following liver transplantation, particularly upon intensive care unit utilization, is substantial. Patients undergoing liver transplantation for chronic liver failure usually are malnourished and have significant muscle wasting that further compounds the consequence of right hemidiaphragm injury. Although most of the patients in this series had normal preoperative pulmonary function tests, their intolerance of right hemidiaphragmatic paralysis was clinically important. The presence of an upper abdominal incision, the closure of the abdomen under relative tension because of the large amount of fluid the patient normally receives during an orthotopic liver transplantation, and the frequent occurrence of a right pleural effusion and atelectasis in these patients makes their postoperative courses complicated, often necessitating longer intubation times, and longer ICU hospitalization with a resultant higher rate of overall morbidity.

Atelectasis is the most common complication

of left phrenic nerve injury found in cardiac surgery patients. A right pleural effusion, however, is seen in all patients who have complete right diaphragm paralysis and in 80% of the patients with a partial right diaphragmatic paralysis. These pleural effusions require the insertion of a right chest tube in more than 80% of cases. Atelectasis of the right lower lobe of the lung has been reported to be present in 80% of patients with complete right hemidiaphragm paralysis: both atelectasis and right pleural effusion, as well as a measurable reduction in respiratory function caused by the paralysis of the diaphragm, clearly explain the longer intubation times required by patients with such injuries, as well as the frequent failure of extubation in such patients.

Once patients with a diaphragmatic injury recover from their immediate postoperative problems, they appear to tolerate their right hemidiaphragmatic paralysis without continued untoward effects. All the patients in this series, when seen in the out-patient clinic, had a normal clinical examination. Although formal pulmonary function testing was not performed, the reports of a normal clinical history and physical examination make clinically significant respiratory dysfunction unlikely. Nonetheless, the patients would appear to be at higher risk for pulmonary morbidity if they were to experience any respiratory compromise caused by other confounding events such as a respiratory infection.

In conclusion, right diaphragmatic dysfunction, most probably due to right phrenic nerve injury, is a common complication of orthotopic liver transplantation. It has a clinically significant effect upon the early postoperative course of liver transplant patients, often requiring a prolonged ICU stay and prolonged ventilatory support. Although its pathogenesis is not established, it is hypothesized that careful attention to operative technique at the time of the upper cava dissection and closure of the bare area of the liver might reduce the frequency of this complication.

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## The Oklahoma-Pittsburgh Experience with Interferon $\alpha$ in the Treatment of HCV Disease

David H. Van Thiel, MD; Lois Friedlander, RN; Stefano Fagioli, MD; Peter Molloy, MD; Robert J. Kania, MD; Harlan Wright, MD

Interferon  $\alpha$  (IFN) is the only Food and Drug Administration (FDA)-approved therapy available for the treatment of chronic hepatitis C. The ideal dose and frequency of IFN administration that produces the greatest number of patient responders with the least number of relapses following drug withdrawal remains unclear.

**Methods.** One hundred seventeen patients recruited over a five-year period with chronic hepatitis C were divided into four groups and treated with progressively larger doses. The rate of clinical responses defined as a loss of detectable hepatitis C virus-ribonucleic acid (HCV-RNA) in serum by polymerase chain reaction (PCR) and normalization of the serum ALT (abnormal alanine aminotransferase) for each group was calculated.

**Results.** As the dose of IFN administration increased, the response rate defined by the absence of HCV-RNA in the patient's serum after six months of follow-up increased from 7.7% to 26.6%. If the end point utilized was HCV-RNA negativity after six months of treatment, the response rate varied from 19.2% to 30%. Using the less difficult end point of a normal ALT level, the response rates varied from 32.1% to 63.3% after six months of therapy and from 10.7% to 26.7% after six months of follow-up.

**Conclusions.** This experience demonstrates

that both the response rate at the end of therapy and after six months of follow-up improves with an increase in dose of IFN administered over a six-month period.

Hepatitis C has been identifiable as a distinct cause of chronic liver disease since its isolation from other forms of blood-borne non-A non-B hepatitis.<sup>1,2</sup> More recently, it has been recognized as the major cause of asymptomatic chronic liver disease<sup>3</sup> as well as other more unusual forms of diseases found in individuals with chronic liver disease.<sup>4-6</sup> Currently, HCV disease is well-known as a cause of chronic hepatitis, cirrhosis, and hepatocellular carcinoma. Clinically, its course is pernicious, requiring 10 to 30 or more years to complete its natural history.<sup>7,8</sup>

Recently,  $\alpha$  and  $\beta$  interferons (IFN) have become available and have been used to treat chronic HCV-associated liver disease.<sup>9-26</sup> Despite their widespread clinical use, the ideal dose of IFN for the treatment of HCV-associated liver diseases has yet to be determined. Most studies in the Western world have used 1, 3, or more recently 5 or 6 million units administered 3 $\times$  week (TIW).<sup>9-24</sup> In Japan, however, larger initial doses of IFN (10 MU) are used followed by prolonged maintenance therapy at lower doses (5 MU) that are considered high by most Western investigators.<sup>25,26</sup> Investigators have used increasingly larger doses of IFN since January 1988 in an effort to determine the best dose for use in patients with HCV-associated liver disease. The following is a report of this experience in 117 individuals.

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Table 1. Characteristics of the Subjects Studied

	Age (Years)*	Gender (M/F)	Liver Histology CPH/CAH/CAH & CIRR	Knodell Score (Points)*	Alt (iu/l)*
Group 1 n=28 3 MU 3 × w Total dose 216 MU	46.2 ± 1.1	16/12	7/15/6	10.4 ± 0.3	147 ± 8
Group 2 n=31 5 MU 3 × w Total dose 360 MU	45.3 ± 1.4	17/14	9/16/6	10.0 ± 0.5	153 ± 12
Group 3 n=28 3 MU daily Total dose 504 MU	47.1 ± 0.8	16/12	8/13/7	9.9 ± 0.4	139 ± 7
Group 4 n=30 5 MU daily Total dose 840 MU	46.5 ± 0.9	18/12	8/15/7	10.5 ± 0.6	150 ± 3
		68/49 117	32/59/26 117		

\*Values are reported as mean values ± SEM

## Methods

**Subjects.**—All patients with HCV antibody positive liver disease seen at three hospitals from January 1, 1988, through December 31, 1992, who were not potential liver transplant candidates and were not already enrolled in a clinical trial were enrolled in the following sequential dose-escalating study. Prior to enrollment, each subject was HCV-Ab positive (second generation test, Abbott Laboratories, Chicago), had six months or more of documented abnormal alanine aminotransferase (ALT) levels and had undergone a percutaneous liver biopsy to document the histologic status of their liver disease. Prior to 1992, serum was collected at the time of enrollment and again after six months of IFN therapy as well as six months after discontinuing IFN therapy. It was stored at -70°C for later hepatitis C virus-ribonucleic acid (HCV-RNA) determination. Since January 1992, a HCV-RNA assay utilizing reverse transcriptase and nested polymerase chain reaction (PCR) with primers specific for the 5' non-variable portion of the viral genome has been available to the investigators. Since January 1992, all new samples obtained at entry, after six months of IFN therapy and again after six months of follow-up off IFN therapy were assayed at the time of collection for HCV-RNA. Moreover, all of the previously collected samples have been assayed using this PCR technique.

**HCV Diagnostic Studies.**—Prior to entry into the study, each subject was positive for HCV-antibody utilizing a second generation test. Moreover, each was demonstrated to be HCV-RNA positive either retrospectively (prior to January 1992) or prospectively (since January 1992).

**Laboratory Monitoring.**—All patients were monitored during the six months of IFN therapy with ALT levels and complete blood counts to include a platelet count weekly for four weeks and then monthly for an additional 11 months (five additional months of therapy and six months of follow-up).

**Treatment Group Assignment.**—Patients meeting entry requirements and agreeing to participate in the study as documented by a signed consent were treated with  $\alpha$  interferon for six months as follows:

1-88 through 12-89	3 MU SQ 3 × week, total dose 216 MU/course	n = 28
1-90 through 12-90	5 MU SQ 3 × week, total dose 360 MU/course	n = 31
1-91 through 12-91	3 MU SQ daily, total dose 504 MU/course	n = 28
1-92 through 12-92	5 MU SQ daily, total dose 840 MU/course	n = 30

The dose of IFN was maintained at the initial starting dose in all patients for the duration of the treatment period (six months). Occasionally, a minority of patients in the latter two groups (n=3 and n=4, respectively) were given granulocyte-colony stimulating factor (G-CSF) (300 µg SQ 1 or 2 ×

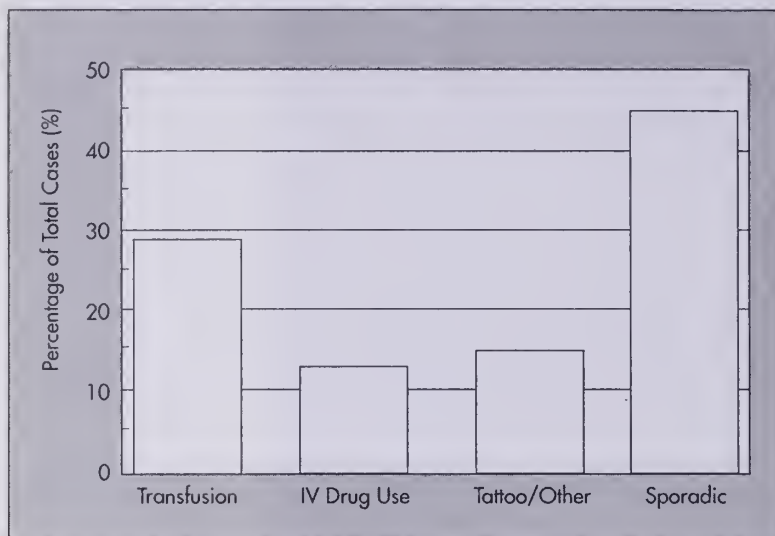


Figure 1. Distribution of the 117 cases studied by the presumed source of their chronic hepatitis.

Table 2. Response Rate with the Response Being Defined by the Serum ALT Level\*

	Type of Response			
	Full	Partial	Transient	Failure
Group 1* n = 28	3	2	4	19
Group 2* n = 31	6	5	6	14
Group 3* n = 28	5	5	6	12
Group 4* n = 30	8	6	5	11

\* Total IFN dose per group:  
 Group 1 216 MU per course  
 Group 2 360 MU per course  
 Group 3 506 MU per course  
 Group 4 840 MU per course

weekly) to maintain their WBC levels above a cut-off value of  $2.0 \times 10^3$  cells/mm<sup>3</sup> in order to maintain the IFN at the prescribed dose. No patient failing to respond in one group was re-entered in a second later group. Thus, all of the data presented relate to the initial treatment period for each subject.

**Liver Biopsies.**—As noted, all patients had a pre-treatment liver biopsy available for review. Moreover, all underwent two follow-up liver biopsies. The first was obtained after six months of IFN therapy. The second was obtained after six months of follow-up off IFN. Each biopsy was

fixed overnight in 10% buffered formalin and processed and section at 5  $\mu$ m. Representative sections were stained with hematoxylin and eosin, a reticulum stain, and Masson's trichrome. All sections were read blindly by a single pathologist, who had no knowledge of the subjects' treatment assignment or the timing of the biopsy. Each biopsy was evaluated utilizing the criteria of Knodell et al<sup>27</sup> and was assigned a composite score.

**Response Definitions.**—Two different definitions of a response were utilized. The first was established prior to the availability of HCV-RNA testing and utilized a biochemical end point, the serum ALT level. This has been the standard for several years. With this definition, a *full response* was defined as a normalization of the serum ALT level that persisted during the follow-up period. A *partial response* was defined as a greater than 50% reduction of the serum ALT level at the end of six months of IFN therapy that persisted through six months of follow-up. All others were defined as treatment failures. In this latter group, a group of *transient responders* meeting the criteria for a response after six months of therapy that did not persist during the six months of follow-up was also recognized.

The second response criteria utilized was adopted after the HCV-RNA assay was available to the investigators. With this end point, a *full response* was defined as HCV-RNA negativity after six months of therapy as well as after six months of follow-up. A *partial response* was defined as clearance of HCV-RNA with six months of therapy that did not persist during the six months of follow-up. All other responses were defined as treatment failures.

**Statistical Analysis.**—All values are reported as means  $\pm$  SEM. ANOVA with appropriate multiple comparison tests were utilized for statistical analysis. A p value less than 0.05 was considered to be significant.

## Results

No significant differences were seen between the four groups studied for age, gender, initial liver histology, whether assessed qualitatively or quantitatively utilizing the criteria of Knodell et al,<sup>27</sup> or initial ALT levels (Table 1). The majority were in their fifth decade of life, but the range of ages of the subjects was rather broad, extending from 24 through 83 years. Of the 117 subjects studied, 68 were male and 49 were female.

The distribution of cases based upon the probable source of their HCV infection is shown in Figure 1. The majority had sporadic HCV disease. Nearly a third had transfusion-associated disease.



Thirty-two of the subjects had histologic chronic persistent hepatitis at entry while 59 and 26, respectively, had chronic active hepatitis or chronic active hepatitis with cirrhosis. The mean Knodell score for the entire group of 115 subjects was  $10.3 \pm 0.2$ .

The response rates varied between groups depending upon the definition of a response being utilized and as a function of the IFN dose administered (Tables 2 and 3 and Figs. 2 and 3). A full response was seen in 10.7%, 19.4%, 17.9%, and 26.7% in groups 1 through 4, based upon the serum ALT level. All responses (full and partial, with the partial responders consisting of those who failed to completely normalize their serum ALT after six months of IFN treatment combined with those who did, but experienced a relapse within six months of discontinuing the IFN therapy, e.g., the transient responders) for the 4 groups were 32.1%, 54.8%, 57.1%, and 63.3% respectively (Fig. 4). The response to 3 MU or 5 MU daily was significantly greater than the response to the same dose administered TIW ( $\chi^2 4.452$ ;  $p \leq 0.05$ ). This finding was consistent whether all or only full responses were used in the calculations.

Using the detection of HCV-RNA in serum as the end point, the full response rates were 7.7%, 12.9%, 14.4%, and 26.6%, respectively, for groups 1 through 4. The partial or transient responses were 19.2%, 19.4%, 28.6%, and 30% respectively (Fig. 2). Thus as both the dose and frequency of administration of IFN increased so did the response rate. This increase in response with dose and frequency of drug administration was evident regardless of which end point parameter was utilized to define a response (Figure 2).

When the response rate achieved was examined as a function of the initial liver histology, it was clear that the response rate was best for those with less advanced histologic disease. This factor alone, however, did not absolutely distinguish between responders and non-responders, particularly when a daily dosing schedule was utilized (Table 4 and Fig. 5).

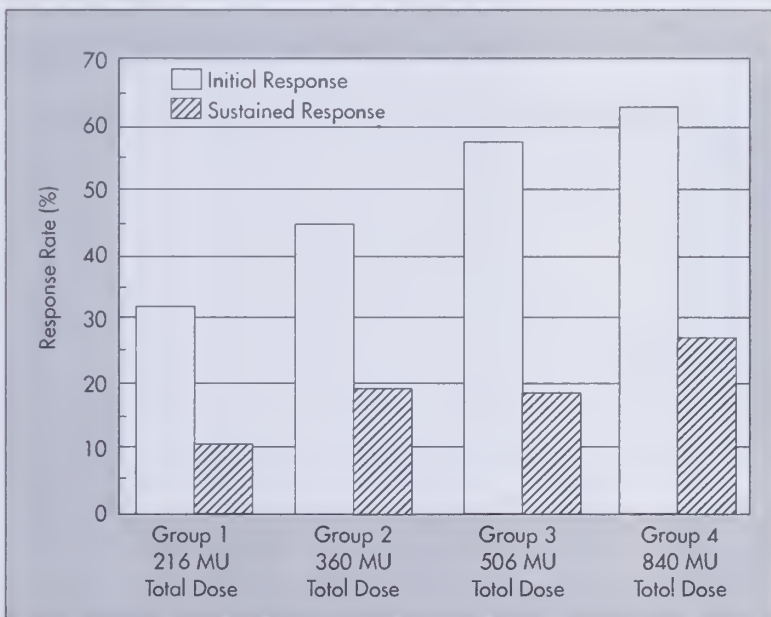
Most important, no increase in untoward effects of IFN was noted with increased doses except for leucopenia and thrombocytopenia. All groups experienced fatigue, malaise, and myalgias. Interestingly, the reported side effects were worse in those receiving the IFN intermittently (TIW) as compared to those who received the drug daily. Thus those receiving a dose of 5 MU daily reported having fewer side effects than those receiving 3 MU TIW. The same was true when the 3MU daily and 5 MU TIW groups were compared.

Those with more advanced histologic disease

**Table 3. Response Rate with a Response Being Defined as the Absence of HVC-RNA in Serum\***

	Type of Response		
	Full	Transient	Failure
Group 1* n = 28	2	7	19
Group 2* n = 31	4	6	21
Group 3* n = 28	4	8	16
Group 4* n = 30	8	9	13

\* Total IFN dose per group:  
 Group 1 216 MU per course  
 Group 2 360 MU per course  
 Group 3 506 MU per course  
 Group 4 840 MU per course



**Figure 2. Initial and sustained response ratio for each dosage group as defined by normalization of the serum ALT level. The larger solid bar represents the initial response rate while the cross-hatched bar represents the sustained response.**

at the initiation of therapy were more likely to have reduced WBC counts and thrombocytopenia both at entry and with therapy. Thus such patients in the higher dose ranges were more likely to require G-CSF to enable full dose administration to continue. An occasional patient receiving G-CSF experienced bone pain. Several subjects in

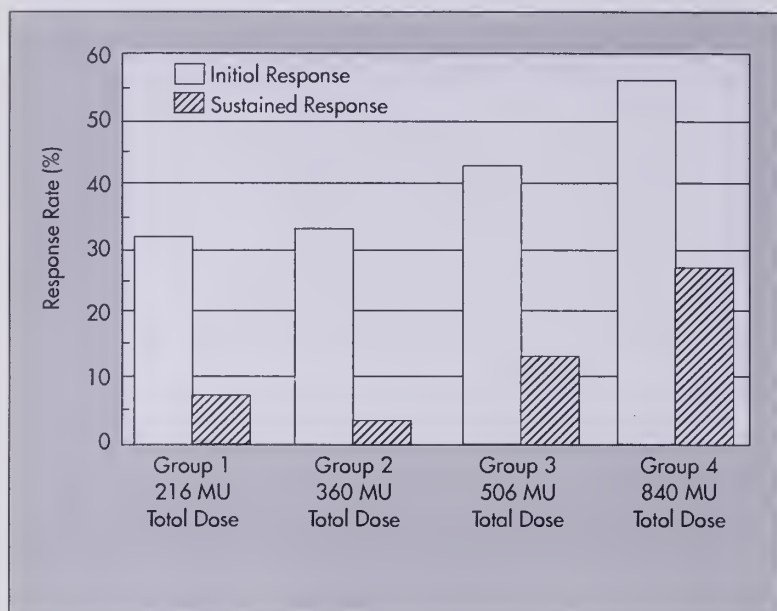


Figure 3. Initial and sustained response rate for each dosage group as defined by a loss of detectable HCV-RNA. The larger solid bar represents the initial response rate while the cross-hatched bar represents the sustained responses.

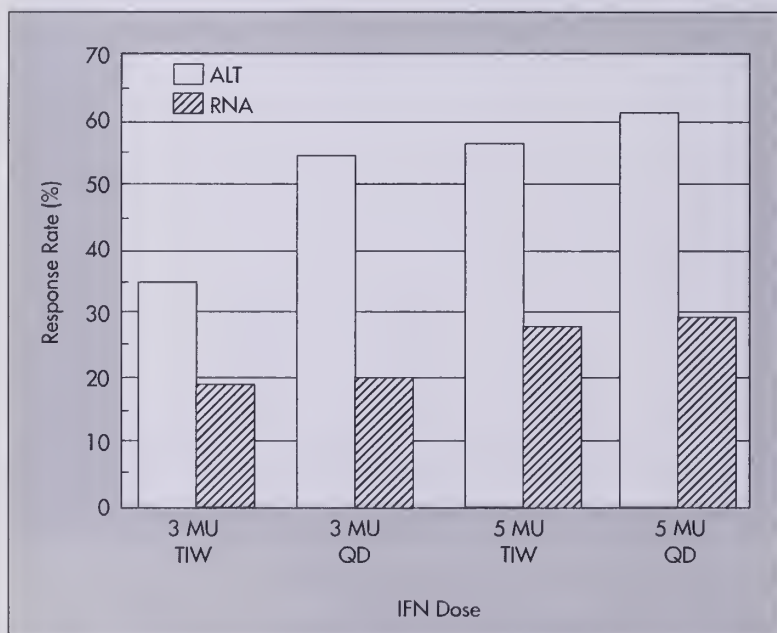


Figure 4. Response rate for each dosage group defined as normalization of the serum ALT level or loss of HCV-RNA in serum.

this study experienced unusual side effects. These included an exacerbation of pre-existing psoriasis ( $n=2$ ), new onset rheumatoid arthritis ( $n=1$ ), and dyspnea associated with a reduction in the

individual's resting arterial  $pO_2$  ( $n=1$ ). The latter two complications of IFN administration did not resolve with discontinuation of the IFN therapy.

## Discussion

Currently, IFN is the only therapy that has widespread acceptance and FDA approval as a therapy for HCV disease. Despite its wide-spread acceptance and use for nearly two decades (initially as a research therapy and since 1991, as an FDA-approved therapy) the ideal dose and duration of therapy remain undefined.

The initial two large clinical trials of IFN for HCV disease involved 58 and 21 individuals, respectively, at the largest dose utilized in each.<sup>9,10</sup> Specifically, 38% to 48% of the subjects treated at a dose of 3 MU TIW or 2 MU TIW experienced a complete response defined as a normalization of the serum ALT level at the end of the treatment period. Unfortunately, these excellent clinical results were not maintained and 50% to 80% of full responders experienced a disease relapse within six months of discontinuing the IFN therapy. Numerous subsequent studies using 2 MU to 10 MU of IFN TIW have confirmed these initial results (Table 5). In these more recent studies, complete responses were noted in 23% to 70% of subjects after six months of IFN therapy.<sup>11-24</sup> As was the case with the two initial studies, relapses were common with 44% to 50% of responders experiencing a relapse within months of discontinuing IFN therapy.<sup>11-24</sup> Subsequent investigations have resorted to longer periods of IFN therapy ranging from 9 to 18 months at doses of IFN that have bracketed those of the earlier studies (Table 5). The complete response rates in these later, longer studies has ranged from 33% to 71%. As in the earlier short-term studies, these longer studies have been plagued by very high relapse rates that ranged from a low of 20% in the study with the poorest rate of complete responses (33%) to a high of 68% in the study with the highest response rate (Table 5).

In the present study, sequentially higher doses of IFN were used beginning at the standard 3 MU of IFN administered TIW to the highest dose of 5 MU administered daily. The results achieved were analyzed using two different endpoint criteria. Unlike earlier studies, by definition, a response regardless of which specific endpoint was used required that the response persist for at least six months after discontinuing the IFN therapy. With this more strict endpoint definition, essentially eliminating all early relapses from the responding group, with the largest dose of IFN (5 MU qd  $\times$  6 months) used, 63% of individuals ex-

**Table 4. Full (Sustained) and Partial (Unsustained) Response Rates Defined as Clearance of HVC-RNA and as a Function of the Initial Histopathologic Findings\***

	Response Rate		
	CPH Full + Partial/Total	CAH Full + Partial/Total	CAH & CIRR Full + Partial/Total
Group 1 n = 28	1 + 1/7	1 + 4/15	0 + 0/6
Group 2 n = 31	2 + 1/7	2 + 4/16	0 + 1/6
Group 3 n = 28	2 + 2/8	2 + 4/13	0 + 2/7
Group 4 n = 30	4 + 2/8	3 + 5/15	1 + 2/7

\* Data expressed as  $\frac{\text{full response} + \text{partial response}}{\text{total number}}$

**Table 5. Results of Various Other Trials of Interferon Therapy for Hepatitis Non-A Non-B (Putative or Confirmed HCV Disease)**

1st Author	IFN Dose	N	Response Rate (%)†	Relapse Rate (%)
Davis	3 MU TIW	58	38	50
DiBisceglie	2 MU TIW	21	48	80
Marcellin	3 MU TIW	20	45	44
Causse	3 MU TIW	30	23	NA
Saracca	3 MU TIW	26	46	50
Realdi*	Variable	30	21	24
	6 MU TIW			
Ideo*	3 MU TIW	15	40	68
Weiland**	3 MU TIW	21	52	64
Carrena*	Variable	30	38	N/A
Mazella†	3 MU TIW	20	70	NA
Ideo*	3 MU TIW	15	53	50
Douglas	1.5	16	25	75
Shihata	10.0	13	69	55.6
Iino	10.0	98	49	16.4
OK-Pitt.	3 MU TIW	26	10.5	0
	5 MU TIW	31	19.4	0
	3 MU QD	28	17.4	0
	5 MU QD	30	26.7	0

\*\* 9 months therapy  
 \* 12 months therapy  
 † 18 months therapy  
 ‡ Response being defined by the authors (usually normalization of the ALT level)  
 All others, 6 months therapy



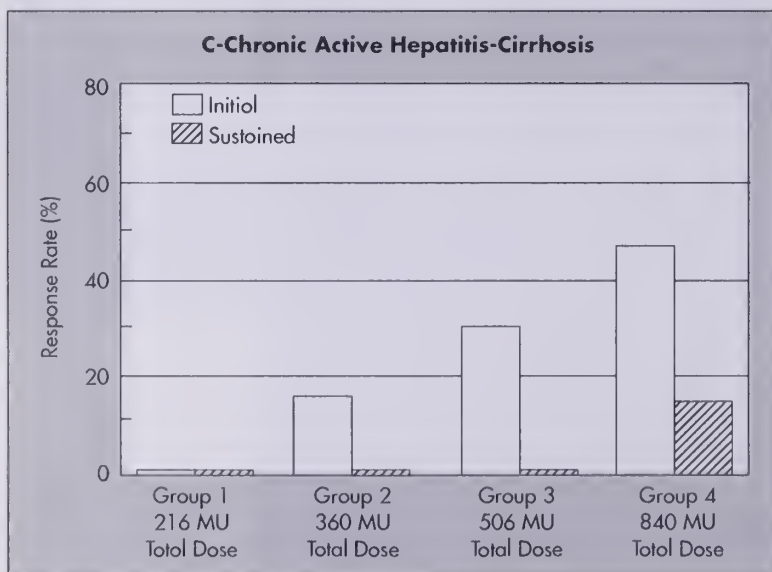
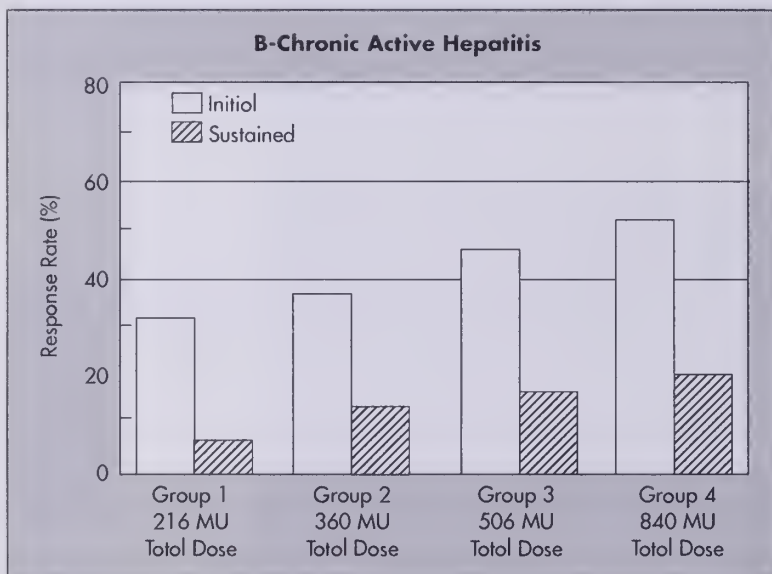
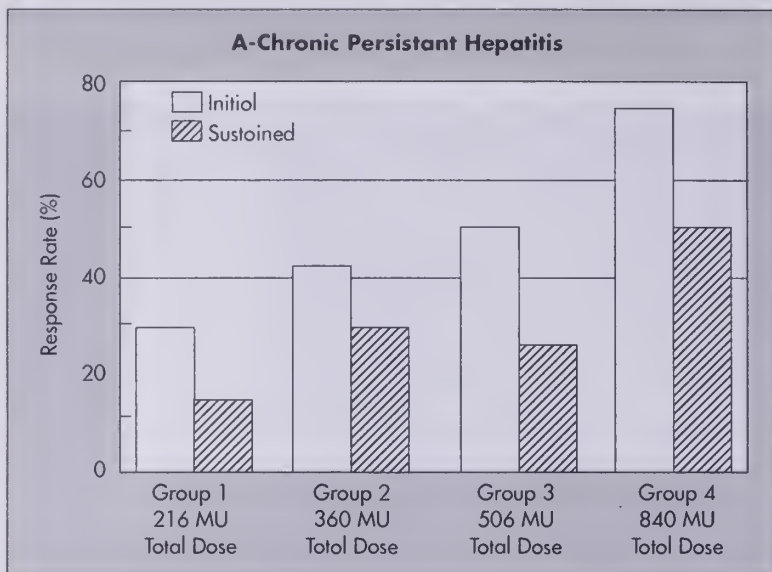


Figure 5A-C. Initial and sustained response rate for each dosage group segregated as to their initial histopathologic findings. Figure 5A shows the data for subjects with chronic persistent hepatitis (CPH); Figure 5B shows the data for subjects with chronic active hepatitis (CAH); and Figure 5C shows the data for subjects with CAH + cirrhosis. The solid larger bars represent the initial response rates while the cross-hatched bars represent the sustained responses.

perienced a disease remission defined as a normal ALT level while a smaller number (27%) achieved a remission defined as persistent HCV-RNA negativity.

These results suggest that higher, more frequent dosing of IFN may create responses that are more likely to persist after the therapy has been discontinued. As a result, HCV-RNA negative responders, at the end of therapy, continue to remain as responders (HCV-RNA negative) in the absence of continued drug administration.

The data clearly suggest, as has been the case with all earlier studies, that the higher the dose, the more likely one is to achieve a lasting response regardless of how the response is defined. The data suggest further that more frequent dosing (daily) coupled with a higher dose may result not only in more patients responding favorably to the IFN therapy but in the achievement of longer lasting responses.

The few studies available in the English language from Japan, where even higher doses of IFN have been used (10 MU initially followed by 5 MU for variable periods of time), are consistent with this interpretation.<sup>25,26</sup> These studies, coupled with the present study, clearly show that response rates are improved with higher doses and that more intense or prolonged therapy results in fewer relapses. Taken together, the available data, although not always controlled, have important implications regarding the current use of IFN in chronic hepatitis C. Specifically, the current recommendation for 3 MU 3× week for 24 weeks (total dose of 216 MU) appears to be inadequate. In contrast, the results achieved with 5 MU daily for 24 weeks (total dose 840 MU) achieves much better short- and long-term results but at a substantial additional cost in terms of drug, hematologic monitoring, and physician costs. Therefore, it would appear appropriate to confirm the present findings with a multi-center trial comparing the currently recommended dose of 3 MU TIW vs. 5 MU daily before recommending this change in dose universally. Ideally, such a study might also match groups for total dose (840 MU) (3 MU TIW for 93 weeks or 5 MU daily for 28 weeks).

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## Acknowledgment

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## *On Writing Better Progress Notes*

Stanley N. Schwartz, MD

Until technology has completely replaced the pen and paper, most physicians will still document much of their work by writing. Choosing the most appropriate writing instrument can bring both legibility and at least some joy to the task of making progress notes.

**A**t some time in the near future, physicians will record observations and instructions electronically by voice-driven methods. For the present, most of us still depend on pen and paper when transcription is not available. A writer can improve the quality of his/her writing through attention to the tools of writing.

### **Pens**

A pen must fit the writer's hand properly for the best quality handwriting. Bad penmanship often can be traced back to a poorly fitting pen. The ergonomics of a pen are determined by several factors including barrel diameter, weight, length, grip placement, and point drag. For each writer there is a barrel diameter that maximizes comfort and control. Some pens have a shoulder or finger grip recess that limits finger placement to a defined region. Writers who grasp the pen quite near the tip should avoid such a design. The amount of friction ("drag") created between the tip and paper, in part related to the flow of the ink, is important to those who write fast or with little downward pressure. Other factors include

the weight and length of the pen. A fountain pen with a removable cap mounted on the back of the barrel during use will have an entirely different feel in the hand than with the cap removed. The fit of a pen is as exacting as the fit of a shoe.

### **Fountain Pens**

Fountain pen design has changed little in the last several decades except for the advent of sealed ink cartridges. Many fountain pens available today can use cartridges or take ink from a bottle. Quill-type nibs with split tips are most common. Gold alloy nibs flow ink more smoothly than steel nibs but must be tipped with a hard metal such as iridium to prevent excessive wear.

Flexibility of the tip is important to writers who exert significant downward pressure. Inflexible tips will not deform as much under pressure, resulting in a more consistent line on the paper. Very stiff tips may be suitable for carbonless copying paper. Hooded point pens such as the venerable Parker 51<sup>®</sup> are ideal for use on copying papers as well as plain paper but are no longer manufactured. They may be available through pen collecting societies and pen specialty shops.

Although the choice of point size (from extra-fine to extra-broad) is usually based on the size of the writer's handwriting, the nature of the paper to be used must be considered. Very fine points will snag and scratch on rough papers. A broad point may not be a good option for narrow-ruled progress note paper.

Fountain pens must be emptied of all ink and flushed with cool water every month or two for best performance. Soaking in plain water or wan-

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ter to which 1 to 2 mL of household ammonia solution has been added will remove dried ink from the feeder channels in the nib. An ultrasonic jewelry cleaner may salvage a hopelessly clogged fountain pen.

### **Fountain Pen Ink**

Waterproof fountain pen ink gives bolder color than washable ink. Ink may deteriorate over time; the growth of microorganisms in old ink may clog fountain pens. Ink that does not flow well in a particular pen can be made "wetter" by adding a wetting agent such as Kodak's PhotoFlo®. The amount clinging to the distal 1 cm end of a toothpick dipped into the PhotoFlo will be sufficient to treat a small (100 mL) bottle of ink. Excessive wetting will cause ink leakage from the pen. Most modern inks are actually dyes free of particulate matter. Drawing and India inks are suspensions of ground pigments and may cause irreparable blockages in fountain pens.

Inks from different manufacturers will have unique flow, color, and penetration qualities. A fountain pen may perform quite differently with a change in brand of ink. Many fountain pen manufacturers claim their own brands of ink are optimized for their pens. If cleaning a pen does not improve its performance, a writer should experiment with other ink brands.

### **Rollerball Pens**

Rollerball pens use a liquid ink that dries very rapidly, leaving a very vivid line. Unlike ballpoint ink, rollerball inks may feather on poor paper surfaces. As rollerball ink is water-based rather than oil-based, very fine rollerball tips tend to feel scratchier than comparably fine ballpoint tips. Medium and wide rollerball tips have much less drag than ballpoint tips and are ideal for writers who exert little downward pressure. Rollerball pens will usually work well on carbon and carbonless copies. A rollerball pen may be the best substitute for a fountain pen user confronted with poor quality paper.

### **Ballpoint Pens**

Ballpoint pens, the most popular type of pen, use a viscous oil-based ink. Medium and broad tips are smoothest. Vividness and thickness of the line are functions of the chemistry of the ink and the ball mechanism. Cartridges from certain manufacturers tend to deliver a less black line (Mont Blanc™, Waterman™, Lamy™) while those from other suppliers have faster flowing inks (Bic™, Papermate™). Rapidly flowing ink may accumulate in blobs at the edge of the ball socket. One

brand of ballpoint pen will write over greasy or wet paper surfaces (Fisher SpacePen®). The performance of an expensive ballpoint is no better than the quality of its refill cartridge.

Both ballpoints and rollerball pens may function poorly if held at an acute angle to the paper as the edge of the socket may drag against the paper. A writer who holds a pen at less than 60 degrees from the paper may write better with a fountain pen or porous tip pen.

### **Porous Tip Pens**

Porous tips are made from felt, fiber, or even ceramic. Most utilize a vivid liquid ink. Waterproof or "permanent" porous tip pens have a different ink that may penetrate papers too deeply, especially when both sides of a paper must be used. The material used for the point will determine the amount of point drag. The main disadvantage to non-ceramic porous tip points is the tendency of the point to squash or spread. Most porous tip pens will not do copying paper well. Porous tip pens are very tolerant to being held at odd angles.

### **Papers**

In general, smooth non-absorbent paper takes the liquid ink of fountain and rollerball pens better than rough or unpolished paper. Very slick paper and many coated papers, such as thermal facsimile paper, will perform poorly with liquid ink. Most papers have two sides, the smoother "felt" side and the rougher "web" side. Although the web side may be difficult to distinguish from the smooth side, it will not take ink as well.

Rough paper often causes "feathering," a spreading out of the liquid ink into the paper's fibers in a blotter-like fashion. Feathering and skipping (leaving an inconsistent line) may also be caused by traces of oil, either natural skin oils or remnants of hand creams, left on paper by previous users. Writers are most likely to encounter oils at the bottom of a page used by others.

### **Good Handwriting**

The prerequisites for good writing—a comfortable seat, clean paper, and a quiet environment—are rarely available on hospital floors. Bound charts and cramped workspaces may impede free arm movement. The necessity to write progress notes on plain paper and orders on carbonless copying paper may require the use of two different pens.

Handwriting can be improved even late in life. For example, learning italic handwriting may force a writer into an improved hand even when

The prerequisites for good writing—a comfortable seat, clean paper, and a quiet environment—are rarely available on hospital floors.

not using specialized chisel-point pens. The cursive style of italic handwriting may be as fast as the more common scripts taught in American schools.



#### **Suggested Reading**

Eager F. *The Italic Way to Beautiful Handwriting, Cursive & Calligraphic*. New York, Collier Books, 1976.

Ernst J. *Power Penmanship: An Illustrated Guide to Enhancing Your Image Through the Art of Handwriting Style*. New York: Quill/William Morrow, 1993.

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## A Note in Support of Reversal Treatment for Coronary Artery Disease

Daniel M. Lane, MD, PhD

Coronary heart disease is the leading cause of mortality and morbidity in the United States at an estimated cost of \$56 billion per year. Current approaches to treatment of coronary artery disease are not likely to reduce mortality and morbidity despite pressure to reduce costs in the changing health care environment. Evidence is now available that comprehensive noninvasive medical management, which includes aggressive lipid-lowering therapy, can produce results equivalent to current approaches at a lower cost. The author supports this approach, which can prevent progression and possibly produce regression of coronary artery disease. A new approach to management is proposed that integrates comprehensive noninvasive management as initial therapy for coronary heart disease.

### Current Problems of Coronary Disease

The leading cause of morbidity and mortality in the United States currently is coronary heart disease. Each year an estimated 1.5 million myocardial infarctions occur, causing 500,000 deaths. Of those events, up to 300,000 of the myocardial infarctions and cardiac deaths develop without any prior clinical warning. The disorder is not limited to the middle-aged and elderly since, based on autopsy data, up to 20% of males less than 30 years of age may have coronary stenoses with greater than 50% obstruction.

The cost for hospitals, physicians, and medi-

cal/surgical costs are estimated to be \$56 billion per year. If the cost for other vascular diseases including the loss of productivity are added, the annual cost exceeds \$100 billion per year, primarily due to the process of atherosclerosis. In the September 1994 issue of *Circulation*,<sup>1</sup> Dr. Lance Gould of Houston proposes a new approach to management of coronary artery disease that can reduce costs while also reducing both mortality and morbidity. This note is written in support of Dr. Gould's recommendations with a slightly modified recommendation.

### Reversal of Coronary Disease Changes

Based on the results of many cholesterol-lowering trials, it is now possible either to prevent progression or to partially reverse coronary artery atherosclerotic changes in up to 80% of the patients by treatment with aggressive diet and drug therapy. Even more important, a major decrease in clinical cardiac events is produced, again in up to 80% of the patients treated, which means that the frequency of cardiac deaths, myocardial infarction, coronary artery bypass graft, and percutaneous transluminal coronary angioplasty (PTCA) can be reduced with cholesterol lowering. Surprisingly, for patients with coronary artery disease, the greatest benefit may be for those with normal cholesterol levels. The most likely explanation for the effect of this treatment is that plaque stabilization occurs with treatment, reducing the likelihood of another acute thrombotic event.<sup>2</sup> With the recent development more aggressive lipid-lowering treatments such as LDL-aph-

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erisis, the benefits can be produced in coronary artery disease patients with the highest cholesterol levels<sup>3</sup> but require invasive therapy.

One major problem in evaluating reversal therapy and its benefits is that current standard testing systems are poorly predictive of benefit and future events, especially the use of coronary angiography.<sup>4</sup> Despite providing the best noninvasive results for a widely available technique, a thallium scan provides, on average, only 86% sensitivity and 54% specificity. Gould, based on his personal experience,<sup>5</sup> recommends that noninvasive positron emission tomography (PET) scans be performed, but this technique is not available widely now.

### Noninvasive Management

The first step in comprehensive noninvasive management of coronary artery disease patients requires that the presence of coronary artery disease be documented. This determination is greatly simplified if the patient has previously had a myocardial infarction, bypass graft, or coronary angioplasty. For all who have documented coronary artery disease, cholesterol-lowering therapy with diet and drugs is a must. The role of noninvasive techniques awaits better techniques than are currently available before being used to assess cholesterol-lowering benefits.

The essentials of comprehensive noninvasive management, as suggested by Gould,<sup>1</sup> are described in Table 1. The most critical component is that the treating physician provide at least as much time for the patient as when the patient has an invasive procedure performed, either for diagnosis or treatment. Special emphasis should be placed on explaining the diffuseness of coronary artery disease to the patient, especially that all epicardial arteries are affected and that progression is almost certain to continue with standard treatments. Finally, the patient should understand that the treatment is a continuous process, requiring regular clinic visits and follow-up.

### Economics of Treatment

Major economic problems exist with current approaches to treatment of coronary artery disease that may be counterproductive. The use of current diagnostic and therapeutic modalities for all patients has led to overall costs which are high and increasing in order to produce good outcomes in a limited number of individuals. The current approach to reducing health care costs can lead to solutions that prevent innovation and flexibility of new treatment strategies, thereby delaying development of better approaches with high qual-

**Table 1. Essentials of Coronary Artery Disease Reversal Regimen\***

1. Personal physician-patient time
2. Review studies, describing extent of CAD with patient (include CHD risk factor analysis?)
3. Emphasize *diffuseness* of CAD, especially progression on standard treatment
4. Describe alternate treatments, therapeutic risks, and failures of PTCA, CABG, and medical treatment
5. Review personal food consumption, adopting each meal for patient's habits
6. Review laboratory tests and reasons for selection of lipid-lowering drugs
7. Review exercise routine personally
8. Reinforce therapeutic regimen by *regular* clinic visit, phone calls, and laboratory tests

\*Modified from Gould<sup>1</sup>

ity at a lower cost compared to heavily discounted traditional practices. Specific problems with the current approaches noted by Dr. Gould<sup>1</sup> include: errors in standard exercise tests, 46%; coronary arteriograms performed without significant coronary artery disease present, 25%; visual overestimates of the severity of coronary artery disease, 30%; overestimates of improved severity following PTCA, 180%; recurrence of narrowing after PTCA, 30% to 40%; potential overutilization of bypass graft and coronary angioplasty, 44%; patients who receive reversal treatment after bypass graft or coronary angioplasty, 17%.

Dr. Gould estimated the five-year cost of the current approach to coronary artery disease management. The five-year cost for standard exercise tests with an arteriogram and angioplasty is \$35,000. The equivalent cost for exercise test, arteriogram, and bypass surgery is \$60,000. This is in marked contrast to the use of a noninvasive diagnostic technique, such as a PET scan, followed by reversal therapy, which costs \$14,000 for the same period.

Despite the overall effectiveness of reversal treatment, there are limitations to the use of reversal treatment. First, reversal therapy may fail to produce the long-term goals of risk factor modification due to factors such as patient failure to comply with treatments. Second, interim clinical coronary events can occur, despite being less frequent with aggressive reversal therapy

Major economic problems exist with current approaches to treatment of coronary artery disease that may be counterproductive.

**Table 2. An Approach to Reducing Costs of Coronary Artery Disease Treatment**

1. Non-invasive testing before invasive diagnostic procedures
2. Comprehensive non-invasive management
3. Invasive diagnostic studies only after comprehensive therapy
4. Reduced use of PTCA and CABG before medical therapy
5. Continued CAD reversal treatment after cardiac event (nonfatal MI, PTCA, CABG)

than without equivalent therapy. Third, significant side effects can develop with use of lipid-lowering drugs but most are self-limited. Fortunately, the concern with increased non-coronary heart disease deaths found in the earliest cholesterol-lowering tests is not being found in subsequent studies, especially the recently reported 4S study from Scandinavia.<sup>6</sup> Fourth, the failure to recognize and document benefits from reversal therapy can lead to more interventional therapy than is required. Finally, the lack of available professionals capable of providing adequate guidance and medical management for reversal treatment probably represents the greatest limitation to developing aggressive coronary artery disease reversal regimens.

### Reducing Costs of Coronary Disease

In a literature review, Gould found evidence that more trials showing decreased coronary events have been reported with reversal treatment than have been reported from studies using either coronary angioplasty or bypass graft in patients with stable coronary artery disease. On that basis, including Gould's observations, an approach to reducing costs of coronary artery disease is suggested in Table 2. First, noninvasive testing for coronary artery disease should be done before any invasive diagnostic procedures are attempted. When coronary artery disease has already been documented, the first step should be comprehensive noninvasive management to reduce progression of coronary artery disease and to prevent clinical cardiac events. Third, invasive diagnostic studies should be done only after comprehensive noninvasive therapy has been provided and found to be ineffective for the patient. The use of coronary angioplasty and bypass graft without prior medical therapy should be reduced as much as possible by requiring that before in-

vasive therapeutic procedures are undertaken patients have received comprehensive medical therapy. Fifth, coronary artery disease reversal treatment should be continued in all patients after a cardiac event, i.e., after non-fatal myocardial infarction, coronary angioplasty, or bypass graft, to reduce the likelihood of subsequent clinical cardiac events and progression of atherosclerosis in coronary arteries.

### Conclusions

If physicians are to have a significant role in determining how our patients are treated, we must be willing to modify our current approaches to diagnosis and treatment of medical disorders, especially when less expensive approaches produce equivalent results. More aggressive noninvasive medical treatment of coronary artery disease is an approach that can reduce health care costs while providing equivalent or better results than current methods. J

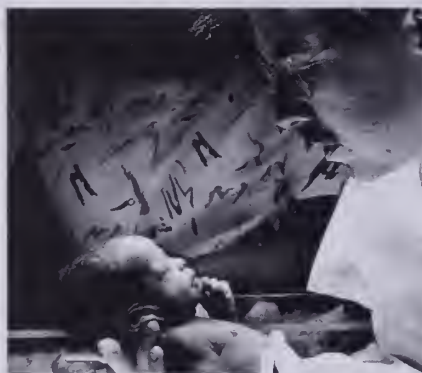
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### The Author

Daniel M. Lane, MD, PhD, is a hematologist-oncologist in Oklahoma City.

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## OKC surgeon Larry L. Long, MD, becomes association's 90th president

Larry L. Long, MD, Oklahoma City surgeon, became the 90th president of the Oklahoma State Medical Association (OSMA) earlier this month, succeeding Dr. Jay A. Gregory of Muskogee.

The black tie inaugural gala was held Saturday, April 8, at the National Cowboy Hall of Fame in Oklahoma City as part of the OSMA's Annual Meeting.

A staunch advocate of organized medicine, Dr. Long is perhaps best known statewide for his twelve years of service as speaker of the OSMA House of Delegates (1981-93). He is a past president of the Oklahoma County Medical Soci-

ety. He served for eight years as chairman of the OSMA Council on State Legislation and Regulation and for ten years on the Board of Directors of the Oklahoma Medical Political Action Committee (OMPAC). He was elected vice-president of the OSMA in 1993 and president-elect in 1994.

Dr. Long earned his bachelor's de-



Larry L. Long, MD  
OSMA President

gree at Phillips University and went on to the University of Oklahoma Medical School, where he was graduated in 1963. He served an internship at Merrey Hospital in Oklahoma City from 1963 to 1964 and a surgical residency at St. Anthony Hospital from 1967 to 1971. He has since been on the active staff at St. Anthony and at Edmond Regional Medical Center.

From 1964 to 1966, Dr. Long was a U.S. Navy Squadron Medical Officer, Amphibious Squadron 5, and served a year at the U.S. Naval Hospital in San Diego.

## Special audit, PROklahoma, Life Members on board's February agenda

The OSMA Board of Trustees held its mid-winter meeting on Sunday, February 6, at OSMA headquarters in Oklahoma City. Among the issues discussed and actions taken were the following:

■ Life Membership applications were approved for Donald L. Graves, MD, Wakita; Edward W. Jenkins, MD, and Edward J. Tomsovic, MD Tulsa; Ralph W. Murphy, MD, Ardmore; Jack W. Parrish, MD, and Johnson W. Sanford, MD, Oklahoma City; Lawrence W. Patzkowsky, MD, Enid; and Elmer W. Taylor, MD, Holdenville.

■ Secretary-Treasurer Carol Blackwell Imes, MD, presented a detailed financial report. She said the Grant-Thornton audit for 1994 was underway and the final report would be presented at the April 1995 meeting of the board. She also presented the final report and recommendations from the Arthur Andersen audit of OSMA procedures. A discussion followed, which touched on each of the report's main issues: OSMA

executive expenses, automobile and related expenses, the executive director's personal expense account, the Physician Recovery Program, and the OSMA employee pension plan. The Andersen report included recommendations on the handling of each of these items and on the establishment of a finance committee to oversee OSMA's financial matters.

Suggested for service on the financial committee by President Jay A. Gregory and Chairman of the Board Douglas C. Hubner were Dr. Imes, Chair; Jon Axton, MD, Oklahoma City; David Harper, MD, and Frank Phelps, MD, Tulsa; Richard Martin, MD, Pryor; and David Selby, MD, Enid. A motion was made, seconded, and approved to accept this roster. The committee's first task was to formulate ways of implementing the Andersen recommendations and present them at the April 1995 meeting.

■ President Gregory said in his report that the majority of his work since the last meeting had been related to

PROklahoma Care and the Oklahoma Physicians Network. He also urged the trustees to participate in the Doctor of the Day program at the state capitol and reminded them that Medicine Day at the Capitol was March 15. He also noted that OSMA has once again received a de-unification resolution for presentation at the 1995 Annual Meeting.

In the absence of Dr. Lance Miller, Dr. Gregory presented the report of PROklahoma Care and the Oklahoma Physicians Network. A discussion ensued regarding capitation. Dr. Gregory explained that this is a new issue that has arisen since the marketing of the plan began, and that fee-for-service and capitation will co-exist. The introduction of capitation came about so that family practitioners who are exclusively capitated would not be excluded from a strictly fee-for-service PROklahoma.

Dr. Mark Palmer asked if individual liability could extend beyond one's

(continued)

## HEALTH DEPARTMENT

### Stop carbon monoxide poisoning

Approximately 5,000 people in the United States every year lose their lives to carbon monoxide (CO) poisoning. According to the National Centers for Disease Control (CDC), nearly 80% of the deaths result from suicide, fires, or homicide. Fuel-burning appliances claim the lives of at least 250 people in the U.S. every year and another 5,000 people are treated in hospital emergency rooms each year for CO poisoning.

Carbon monoxide is a colorless, odorless, and flammable gas that forms during the incomplete combustion of carbon. It is highly toxic to animals, inhibiting the transport of oxygen by hemoglobin. Carbon monoxide is a silent killer—most people who are poisoned are unaware of what is happening, even when they know what the symptoms are beforehand. The symptoms are flu-like in nature, and usually start with headaches, but will vary from one individual to another as a result of each person's tolerance to the poison. Ten to 11 parts per million (ppm) concentration of CO will usually make most people ill, and 15 ppm is usually considered lethal.



While a serious public health problem, CO poisoning can be avoided. Three simple steps can prevent most poisoning from carbon monoxide: (1) Never operate automobiles in a closed garage or confined space. (2) Always supply proper amounts of combustion air for fuel-fired equipment. Have heating equipment and vents checked and cleaned every year by a licensed mechanical contractor. (3) Install U.L.-approved carbon monoxide detectors and smoke detectors to give early warning of fire or carbon monoxide.

The use of licensed mechanical contractors ensures the consumer additional protection against CO poisoning. Oklahoma law requires air conditioning, heating, and refrigeration mechanical contractors to be licensed and the Oklahoma State Department of Health's Occupational Licensing Service has the responsibility for regulating and licensing these contractors. The Occupational Licensing Service also handles complaints concerning possible CO poisoning. Call them at 405-271-5217 for more information on potential causes of CO poisoning.

### Board meeting (continued)

\$3,000 investment if the company failed, making shareholders jointly and severally liable for all PROklahoma debts. Dr. Joe Crosthwait said this had been thoroughly researched in the beginning and that stockholders would be liable only for their original investment and the remainder of the year's contract with their patients.

■ Mr. Clayton Taylor, project director for the University of Oklahoma Health Sciences Center Foundation, presented a detailed report regarding the status of the teaching hospitals and the options open to them. This has been reported at length by the general media.

■ Executive Director David Bickham opened his report with a discussion of the Coalition Against Lawsuit Abuse (CALA), which was asking for \$100,000 in support from the OSMA. There was a discussion about the money and time expended on tort reform efforts several years ago, as well as whether and to what extent PLICO would fund the current effort. Ultimately an amended motion was approved to join with CALA and make a financial commitment, delaying specific details of that commitment until the results of SB 639 are known (SB 639 would exempt PLICO from surplus

and capital requirements, although there is already a state exemption for companies like PLICO). It was agreed that the OSMA president would decide the proper time for making a specific financial commitment.

Other items discussed briefly by Mr. Bickham were the case of the Board of Medical Licensure and Supervision vs. the Board of Optometry, the waivers being sought by the Oklahoma Health Care Authority, the Executive Appointment applications mailed to OSMA members, and the recommendations to Governor Keating of physicians (Patrick Bell, MD, Tishomingo; Joann Carpenter, MD, Ada; Glen Diacon, MD, Ada; and Augustin Shi, MD, Shawnee) to fill the unexpired term of Dr. Orange Welborn, MD, Ada, on the state board of health.

■ A motion for the OSMA Board of Trustees to oppose "any willing provider" language was voted on by a show of hands and approved by a vote of 9 to 7.

■ A motion that the OSMA take a strong public stand against enactment of any proposed statute permitting the prescribing of drugs by non-physicians was approved.

■ OSMA Associate Director Mike Sulzycki announced that Jean Gumerison had been elected to receive the Donald J. Blair Friend of Medicine

Award. A mail ballot was to determine the recipient of the Wyeth-Ayerst Physician Award for Community Service. Both awards were to be presented April 7 during the Opening Session of the OSMA House of Delegates.

■ OSMA Legal Counsel Ed Kelsay presented the report of the Constitution and Bylaws Committee. He said two possible amendments to OSMA bylaws had been recommended this year. The first was a "housekeeping" amendment changing the name of the Hospital Medical Staff Section to the Organized Medical Staff Section, in order to keep OSMA bylaws consistent with language used in the AMA bylaws. The second amendment would remove from OSMA bylaws the requirement that OSMA members be U.S. citizens or have filed a declaration of intent to become U.S. citizens. Both amendments were to be taken to the April House of Delegates meeting for approval.

■ A motion was approved to send a letter to the Oklahoma State Board of Health stating that the OSMA encourages all physicians and public health departments to screen children under the age of six for lead exposure and to report children with elevated blood levels of lead to the appropriate health department. The letter was to be signed by Drs. Gregory and Hubner.

—SFR



Image, not efficacy...

## Many in-Line skaters neglecting to wear proper protective equipment

Nearly one-third of in-line skaters do not wear any kind of protective gear, according to an article in the January issue of the American Medical Association's *Archives of Family Medicine*.

Craig C. Young, MD, and David H. Mark, MD, MPH, Medical College of Wisconsin, Milwaukee, observed 1,548 in-line skaters during a three-month period in Milwaukee. Their study is believed to be the first on the use of protective equipment by in-line skaters.

Despite recommendations from the American National Standards Institute that in-line skaters wear, at minimum, rigid wrist guards and a helmet, the researchers found 491 skaters (31.7%) wore no protective gear. As for the rest of the skaters: 614 (39.7%) wore one piece of protective gear; 224 (14.5%) wore two pieces; 201 (13.0%) wore three pieces; and only 18 (1.2%) wore all the protective gear, including wrist guards, knee pads, elbow pads, and a helmet.

The study found that if a skater used protective equipment, it was most likely to be wrist guards and least likely to be a helmet: 999 (64.5%) wore wrist guards; 464 (30.0%) wore knee pads; 234 (15.1%) wore elbow pads; and only 40 (2.6%) wore a helmet.

The researchers also compared skaters by sex, age, and skill level. They found that female skaters were more likely to wear some sort of protective gear than male skaters (72% vs. 64.9%); teenagers were the least likely to wear protective equipment compared with children and adults (51.0% vs. 60.7% and 69.7%); and beginners were more likely to wear some sort of protective gear than average or advanced skaters (93.6% vs. 73.3% and 66.9%).

The authors write: "Our study found that, as a group, in-line skaters wore insufficient protective equipment."

They say protective equipment use patterns of children and adolescents appears to be based on convenience, cost, and image, not efficacy: "Most of the children's knee pads were soft, soccer-style pads rather than the more expensive hard-shell pads designed for in-line skating. This suggests that children wear what is available, which in turn suggests that they may not own appropriate gear."

The authors conclude: "Manufacturers of protective equipment should consider style, cost, and safety in equipment design and should use appealing role models in advertising and public-image campaigns to heighten the desirability of wearing protective equipment. Finally, physicians should join others in educating skaters, their parents, and the general public about the importance of safety equipment in this and other sports."

The National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, recently estimated that more than 30,000 in-line skating injuries are evaluated in emergency departments each year.

## IN MEMORIAM

### 1994

Fannie Lou Leney Hayward, MD	January 2
Kirk Thornton Mosley, MD	January 3
Richard Charles Wade, MD	January 6
Austin Walsh Webb Haddox, MD	January 13
Earl Mathews Woodson, MD	February 20
Tom Lamar Johnson, MD	March 5
Orville Main Rippey, MD	March 11
Minor Elliott Gordon, MD	March 14
George Loren Norris, MD	March 27
Max A. Glaze, MD	April 29
Winfred Aaron Showman, MD	May 14
Mark Daniel Holcomb, MD	June 1
Carter William Mathews, MD	June 3
Frank Wilson Clark, MD	June 6
Harold Ray Sanders, MD	June 15
Robert Bruce Howard, MD	June 16
Richard Warren Loy, MD	July 7
John Hobson Veazey, MD	July 11
Wesley A. Whittlesey, MD	July 12
Laurence Sevier McAlister, MD	July 19
Jon Meyer Chenette, MD	August 4
Beryl Drew Henwood, MD	August 14
Jess Duval Herrmann, MD	August 16
John Xavier Blender, MD	October 5
John Patrick Skelly, MD	November 6
Jose J. Guijarro, MD	November 11
Haven Winslow Mankin, MD	November 14
Dalton Blue McInnis, MD	November 26

### 1995

Robert M. Wienecke, MD	January 3
Mason Russell Lyons, MD	January 6
Wallace Byrd, MD	January 25
Herbert Victor Lewis Sapper, MD	January 26
Addison Bowling Smith, MD	January 31
Clifford Jennings Blair, MD	February 10
John Richard Danstrom, MD	March 5
Othal Blair Cunyningham, MD	March 14
George S. Bozalis, MD	March 21

## Hello, directory assistance...

Please clip or make a note of the following corrected listing in the 1995 *Oklahoma State Medical Association Directory of Physicians*:

### BELKNAP, HAROLD R JR

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Norman, OK 73071-6400  
Phone 405-329-0191 Fax 405-321-0121



## DEATHS

### **George S. Bozalis, MD 1910 - 1995**

Longtime Oklahoma City allergist and OSMA Life Member George S. Bozalis, MD, died March 21, 1995. A native of Nashville, Tenn., and a 1935 graduate of the University of Oklahoma School of Medicine, he served both his internship and residency at the St. Louis Hospital Group, Mo. Dr. Bozalis was on active duty with the U.S. Army Medical Corps for 5 years, including 18 months in the European theatre, where he was chief of medical service at the 109th Evacuation Hospital. He was awarded the Bronze Star at Normandy and attained the rank of lieutenant colonel by the time he was discharged. He returned to Oklahoma City after the war and established a private practice; he founded the Oklahoma Allergy Clinic in 1954. Dr. Bozalis was a clinical professor at his alma mater and earned the 1982 Physician of the Year Award from the alumni association. In 1988 he received the Dean's Award for Distinguished Medical Service.

### **Othol Blair Cunnynggham, MD 1949 - 1995**

Edmond physician O. Blair Cunnynggham, MD, died March 14, 1995. The 1975 graduate of the University of Oklahoma College of Medicine had a general practice concentrating on weight loss medicine and was on the full-time staff at Edmond Memorial Hospital. After completing his internship at OU, he joined the U.S. Air Force as a general medical officer at Tinker Air Force Hospital in Midwest City.

### **John Richard Danstrom, MD 1912 - 1995**

John R. Danstrom, MD, a native of Fargo, N.D., died March 4, 1995, in Oklahoma City. He was graduated from Northwestern University Medical School in 1938 and served his internship and residency at St. Mary's Hospital, Duluth, Minn. He completed a fellowship in radiology at the Cleveland Clinic between 1941 and 1943. Dr. Danstrom practiced radiology for more than 40 years and also taught at the University of Oklahoma Medical School. He served as vice-president of the Board of Chancellors of the American College of Radiology (ACR) and was elected a Fellow Emeritus by the same board. Dr. Danstrom served in the U.S. Army during World War II, attaining the rank of captain.

### **John Patrick Skelly, MD 1928 - 1995**

OSMA Life Member John P. Skelly, MD, Tulsa, died November 6, 1994. An occupational medicine specialist, Dr. Skelly attended the University of Pittsburgh (Pa.), earning both his bachelor's and medical degrees there. He was a member of the Aerospace Medical Association, the Society of U.S. Navy Flight Surgeons, and the Airline Medical Directors, and served on active duty with the U.S. Army from 1960 to 1964.

### **Addison Bowling Smith, MD 1900 - 1995**

Retired general surgeon Addison B. Smith, MD, Stillwater, died January 31, 1995. A veteran of World War I and a 1932 graduate of the University of Oklahoma College of Medicine, Dr. Smith completed his internship and surgical residency in Oklahoma City. He was the 1962-63 president of the OU College of Medicine Alumni Association. Dr. Smith was a Life Member of the OSMA. J

#### **Notice of Duplicate Publication**

The article "Nitric Oxide: An Environmental Pollutant as a Therapeutic Agent" by George P. Giacoia, MD, published in the January 1995 issue of the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION contains essentially the same material, illustrative figure, and conclusion as an article by the same author entitled "Nitric Oxide: A Selective Pulmonary Vasodilator" published in the January 1995 issue of the *Southern Medical Journal*.

On September 15, 1994, the author granted and assigned exclusive rights to the material to the publisher of the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION, and on November 1, 1994, was notified of acceptance by the JOURNAL.

Dr. Giacoia has advised the JOURNAL that he had no intentions of ethical deception, and he has listed areas of differences in the two articles.

#### **References**

1. Giacoia GP. Nitric oxide: an environmental pollutant as a therapeutic agent. *J Okla State Med Assoc.* 1995; 88:17-23.
2. Giacoia GP. Nitric oxide: a selective pulmonary vasodilator. *South Med J* 1995; 88:33-41.

## CLASSIFIEDS

Classified ads are 50 cents a word, with a minimum of \$25 per ad. A word is one or more characters bounded by spaces. Box numbers will be assigned upon request and will add 6 words to the total. Payment must accompany all submissions. Orders will NOT be accepted via telephone or fax. Mail ad with payment to OSMA JOURNAL, 601 Northwest Expressway, Oklahoma City, OK 73118. Deadline is the first of the month preceding the month of publication.

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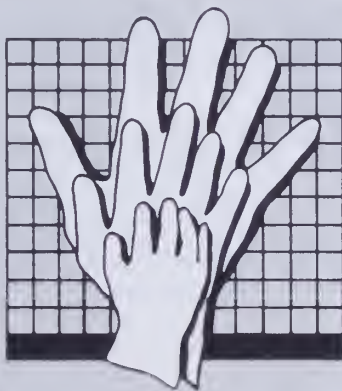
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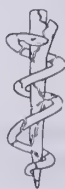
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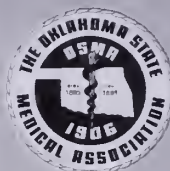
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All manuscripts should approximate the style adopted by the American Medical Association as illustrated in *JAMA* and detailed in the AMA's *Manual of Style*. An abstract of 150 words or less should accompany each paper and should state the exact question considered, the key points of methodology and success of execution, the key findings, and the conclusions directly supported by these findings. Footnotes, bibliographies, and legends for illustrations should be on separate sheets. References are to be listed in the order of their appearance in the article, and in the style used in both the JOURNAL and in *JAMA* (author, title, publication, year, volume number, pages). Also, include a one- or two-sentence biographical note about each author describing his or her current activity or affiliation as it relates to the article.

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■ **The JOURNAL's Editorial Board was unable to hold its** usual March meeting due to a last-minute snow storm. However, using mail ballots and telephone conferences, the following award recipients were selected:

Brent R. Brown, MD, Oklahoma City, received the Charlotte S. Leebron Award for the most worthy scientific paper published last year. Actually he published a two-part paper in August and September: "Understanding Mechanical Ventilation: Indications for and Initiation of Therapy" and "Understanding Mechanical Ventilation: Patient Monitoring, Complications, and Weaning."

James S. Gerber, MD, Okarche, was selected to receive the award for the best JOURNAL cover photo used in 1994. His winning shot of a barn silhouetted against a sunset appeared on the February 1994 cover.

Senior medical student Gregory A. Millnamow, studying in Tulsa, was named recipient of the first Mark R. Johnson Award for Excellence in Medical Writing. The award, funded by a memorial trust, goes to the best example of medical writing, either scientific or commentary, submitted by an Oklahoma medical student or resident during the year.

All JOURNAL awards were presented earlier this month during the OSMA Annual Meeting in Oklahoma City.

■ **Statewide services to disabled individuals now provided** by the University of Oklahoma Health Sciences Center's Orthotics and Prosthetics sections will continued uninterrupted, despite closure of the O'Donoghue Rehabilitation center where the programs are now housed. "Although we share a facility with O'Donoghue, our service is still intact and we will continue to operate at full capacity," said William Barringer and Gary Berke, section directors. "With the announcement of the scheduled closure there has been a great deal of confusion, which we would like to eliminate." The Orthotics and Prosthetics sections both are part of the OUHSC's Department of Orthopaedic Surgery and Rehabilitation, and provide a full range of services to amputees and other disabled clients across Oklahoma. They will continue operating at their current address, 1122 NE 13th Street, Room #WB501, in Oklahoma City. More information about services can be obtained by calling (405) 271-3644.

■ **University of Oklahoma College of Medicine Professor Edward N. Brandt, Jr., MD,** has been invited to serve as a member of the Advisory Committee on Research on Women's Health at the National Institutes of Health (NIH). The committee assists the Office of Research on Women's Health to better address scientific, legal, and ethical issues affecting the health of American women through biomedical and behavioral research and related career opportunities. Dr. Brandt is director of the OUHSC Center for Health Policy and previously served as United States assistant secretary for health.

■ **During National Poison Control Week, March 19-25,** the Oklahoma Poison Control Center (OPCC) asked health care professionals to help educate their patients and clients about

the potentially dangerous substances in their homes. The list of substances was as follows: (1) muscle rubs containing oil of wintergreen or methyl salicylate, (2) plants, (3) products containing camphor, including many chest rubs, (4) decongestant and other medications in droplet form, including eye drops and nasal sprays, (5) furniture polishes containing mineral oil, (6) hydrocarbons found in paint thinners, lamp oil, gasoline, lighter fluid, and mineral spirits, (7) cleaning products containing pine oil, (8) automatic dishwasher detergents, (9) oven cleaners containing lye or sodium hydroxide, (10) nicotine from cigarettes, snuff, or gum, (11) concentrated glass cleaners and solvents containing cellusolve (ethylene glycol butyl ether), (12) vitamins containing iron, (13) acetaminophen, found in aspirin-free pain relievers, (14) decongestant cough and cold medicines, (15) non-steroidal, anti-inflammatory drugs like ibuprofen, (16) prescription drugs, especially antidepressants, diabetic drugs, blood pressure medications, and heart medications, (17) perfumes, (18) button-size batteries, (19) hair dye and hair spray, and (20) toilet bowl deodorizers.

Remember that antidotes recommended on many product labels may be outdated or incorrect. In addition, home remedies such as salt water or mustard and water are often ineffective and may be dangerous, depending on the type of poisoning, notes pharmacist Lee McGoodwin, managing director for the OPCC. Never, she added, induce vomiting without the advice of a physician or Poison Control Center Specialist. The Oklahoma Poison Control Center can be reached at 1-800-522-4611.

■ **Oklahoma Representative Tom Coburn, MD,** found himself in the news again recently, and it had nothing to do with his legislative duties. In February, Dr. Coburn was on a Washington-to-Denver flight when fellow passenger Ralph Hill, a 47-year-old accountant with the U.S. State Department, suffered a seizure and lapsed into unconsciousness. With only an oxygen supply and a blood pressure cuff available on the plane, Dr. Coburn was able to revive Hill but could not determine the nature of the medical problem. When Hill's blood pressure suddenly dropped and he lost consciousness again, Dr. Coburn had the pilot land in St. Louis. Doctors there and in Hill's hometown of Aurora, Colo., concluded that he had been suffering from exhaustion and severe dehydration. "God was looking out for me," Hill said later, and in a letter of appreciation to Dr. Coburn, he included a photo of his wife and son.

■ **The 9th Annual Frontiers in Endourology course (urologists only),** "Advanced Laparoscopic Urology: The Best of the Present!" will be presented June 9 and 10, 1995, in St. Louis. Presented by the Office of Continuing Medical Education at Washington University School of Medicine, the seminar will be held at the Washington University Medical Center. For details, contact the university's CME office, Campus Box 8063, 660 South Euclid Avenue, St. Louis, Mo., 63110-1093, 1-800-325-9862, or fax (314) 362-1087. □



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# JOURNAL

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## ABOUT THE COVER

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## Managed Care and Board Certification

"Board Certified Only Need Apply" (*AM News*, December 1994). "Without Board Certification, Managed Care Could Leave You Behind" (*AM News*, March 13, 1995). "All the managed care groups we deal with are looking for Board Certified FP's" (*Physicians Management*, April 1995). These headlines and statements are common fare in today's periodicals received by Oklahoma physicians and others throughout the United States.

Sobering in context, frustrating, even angering, they are nevertheless there for us to contemplate. Managed Care, today's new "buzz word" like Health Care Reform was a short year ago, is here to stay and is responsible for this, a new worry and a new irritant. Profit driven, business directed, stockholder-serving, these organizations obey only one master—the positive side of a profit/loss ledger. Now, through their fiduciary goals, they strive to regulate that about which they know nothing—the clinical practice of medicine.

It has long been evident that board certification does not provide a true measure of continued competence or professional excellence. Many medical groups, the American Medical Association, the American Academy of Family Practice, and the American Board of Medical Specialists among them, do not support the position that board certification is the only benchmark of medical

competence. In fact, nationwide, approximately 35% to 40% of practicing physicians are not certified. In Oklahoma, of 4,026 physicians insured by Physicians Liability Insurance Company, 1,285 are not board certified. Among the 956 Doctors of Osteopathy practicing in Oklahoma, only 394 are board certified.

In my own case, I have practiced with a medical school, internship, and residency classmate for 32 years. I chose to continue board certification in family practice and he did not, and there is not one iota of difference in the way we practice and care for our patients. A managed care group could exclude him and choose me on that basis only. This should not be possible!

Oklahoma has no "Any Willing Provider" law, for whatever reason, but legislative action is needed. We should strive diligently for laws which will prevent any healthcare plan from requiring board certification for enrollment as a provider (and I detest that word. It connotes merchant and I am a physician) in that plan. Read, study, think, talk to your colleagues, and work for your very survival. Requirements for board certification may very well be only the beginning.

—O.W. Dehart, MD  
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## Physician and patient... or provider and client?

I have thoroughly enjoyed Dr. David Confer's President's Letter in *Tulsa Medicine*. In one of his recent letters, he touched on the fact that a large number of organizations within the health care industry is using the word *client* quite prominently to refer to those individuals who seek aid and care through healthcare. It has always been a concern of mine that there are those who would try to alter the identity of a very treasured and personal relationship. I became aware 15 or 16 years ago that there was a very quiet but definite attempt to change the identity of our patients. I believe it was the American Nursing Association, through their educational philosophers and planners, that chose to suggest that patients were not patients but merely clients. The assault on this relationship is not uniquely from the nursing education planners. I would suggest that nowhere in state and federal legislation affecting healthcare delivery do we find the word *physician* or *patient*. We are referred to as providers, consumers, clients, and we toil in



a place of free-market and managed-care competition.

Detractors would suggest that we are merely over-reacting to a change in words. They maintain that these changes are progressive integrations that are needed to allow expanded concepts in which providers can provide better "client care."

In a time when meaningful identities are difficult to maintain, I would suggest that neither the physician nor the patient welcomes this tampering in something so steeped in honor and tradition.

Advocates of reform will continue to attempt to make "minor" changes in the way we identify one another in healthcare. I believe these "minor changes" are a part of a larger attempt to assault the very foundation of the greatest healthcare delivery system man has ever known. I think that we need to be sensitive to appropriate proposals for sensible reform. However, there are certain identities and relationships that are best left alone.



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## Intestinal Failure and Intestinal Transplantation: New Therapy for Individuals Sustaining Large Losses of Bowel: A Review

Bokr Nour, MD; Dovid H. Von Thiel, MD; Sam Kocoshis, MD

Intestinal failure is a concept developed to define the situation wherein either severe primary gastrointestinal disease or a surgically induced short bowel syndrome exists and prevents an adequate oral intake of nutrients such that parenteral nutrition is required. Typically, because of disease associated problems, total parenteral nutrition is required in most cases of intestinal failure. The major cause of intestinal failure in both adults and children is surgical resection resulting in a short bowel syndrome.

The clinical signs and symptoms of a short bowel syndrome include any combination of the following: intractable diarrhea, steatorrhea, failure to thrive, acidosis, dehydration, trace element deficiency syndromes, hypoproteinemia, hypovitaminosis, and anemia. It is often difficult to predict at the time of a bowel resection whether or not a short bowel syndrome will occur postoperatively. This is the case because any of a number of confounding problems such as (a) difficulty in precisely estimating the length of the remaining small bowel at the time of the operation, (b) the presence of disease in the residual small bowel that can produce further shortening or impair residual intestinal function, and (c) the presence or absence of the ileocecal valve, which can be critical in determining the absorptivity of the residual bowel.

### Pathophysiology of Intestinal Failure

Because the absorption of iron, calcium, and folic acid occur predominantly if not exclusively in the duodenum, resection of the duodenum leads to malabsorption and an inability to maintain adequate iron, calcium, and folic acid levels in the absence of parenteral administration of these substances.

Resection of the jejunum impairs or limits the absorption of carbohydrates, protein, and fat. The presence of an adequate length of ileum can compensate for a major loss of jejunum as long as the ileocecal valve is retained.<sup>1</sup>

Resection of the ileum and ileocecal valve not only reduces the surface area available for absorption but also interferes with the enterohepatic circulation of bile acids leading to a depletion of the bile acid pool, steatorrhea, bile salt diarrhea, and bacterial overgrowth of the residual more proximal small bowel.<sup>2,3</sup>

Vitamin B<sub>12</sub> malabsorption occurs whenever more than 100 cm of terminal ileum is removed.<sup>4</sup> It can occur with even smaller resections if the ileocecal valve is resected and bacterial overgrowth of the proximal bowel occurs.<sup>4,5</sup>

The short bowel syndrome is essentially always associated with disaccharide and complex carbohydrate intolerance. Malabsorbed carbohydrates are both digested and fermented by colonic bacteria, yielding short-chain fatty acids which dissociate and markedly increase the osmolarity of the luminal content, leading to an exacerbation of the diarrhea.<sup>6,7</sup>

Loss of the small bowel forces the colon to experience large amounts of soluble oxalate.<sup>8</sup> As

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Individuals with evidence of hepatic injury but without overt cholestatic or hepatic synthetic failure, who have intestinal failure, engender a dilemma.

a result of a relative deficiency of luminal calcium, the oxalate in the colon is absorbed and oxalate urolithiasis results.

### Intestinal Adaptation to Loss of Bowel Length

The height of the villi in the residual distal small bowel increases in response to resection of more proximal small bowel. In addition, intestinal diameter increases to partially compensate for the increased amount of luminal content. As a result of both of these changes, although the absolute absorptive capacity per unit of mucosal cell remains constant, an increase in absolute numbers of mucosal cells occurs, increasing the absorptive capacity of the residual bowel.

In general, children have a greater capacity for intestinal adaptation than do adults.<sup>5,9-11</sup> Moreover, adaptation is facilitated by the presence of an intact ileocecal valve.<sup>12</sup> In animal models of intestinal resection, disease of the bowel leads to intestinal atrophy within three days while the early institution of enteral feedings promotes intestinal adaptation. Several studies suggest that the addition of glutamine to enteral solutions accelerates intestinal adaptation both in humans and animals.<sup>13-18</sup>

### Problems Associated with TPN

Total parenteral nutrition (TPN) is required transiently by all who experience a major bowel resection until adequate intestinal adaptation occurs. For a minority for whom intestinal adaptation is inadequate, this requirement may be life-long. Many problems associated with the use of TPN have been recognized since its development in the 1960s. Some individuals with a short bowel are never able to tolerate enteral feedings. Others experience TPN-induced cholestasis, technical problems related to venous access, or recurrent episodes of infection or metabolic complications of TPN which markedly impair their quality of life, necessitating some other form of therapy.

Many of these problems can be overcome with meticulous attention to the care of venous access lines and the content of the enteral solutions being provided. In contrast, the hepatic consequences of TPN are more difficult to manage and may be progressive, despite reductions in the carbohydrate content or alterations in the amino acid content of the enteral solutions being utilized.<sup>19-</sup>

<sup>22</sup> In addition to the actual nature of the enteral solutions being used, a variety of host-related factors may contribute to the problem of TPN-associated cholestasis.<sup>22</sup> These include: the absence of cholecystokinin secretion as a result of either jejunal resection or prolonged fasting, a

reduction in the bile acid pool size, the development of biliary sludge and biliary symptoms, a loss or reduction in the amount of putative hepatotropic factors delivered to the liver as a result of fasting or bowel resection, excessive portal venous concentrations of endotoxin and other bacterial cell wall glycoproteins that impair hepatocyte function, and overt bacterial translocation into the portal vein.<sup>22</sup>

The untoward consequences of parenteral nutrition manifested by the liver can occasionally be reversed or prevented by the early reintroduction of enteral feedings (if possible). Other therapeutic strategies include cycling parenteral nutrition with enteral nutrition, protecting enteral solutions from light exposure,<sup>23</sup> supplementing the enteral solution with taurine,<sup>24</sup> and the judicious use of oral antibiotics to control the overgrowth of enteric organisms.<sup>25</sup> Despite all of these maneuvers, a minority of TPN patients will develop progressive hepatic dysfunctions that lead to hepatic failure and the need for liver transplantation. Isolated orthotopic liver transplantation should not be performed in such cases because the continuing need for TPN will lead eventually to failure of the transplanted liver. Additionally, the paucity of the remaining small bowel may preclude any attempt at a satisfactory method of biliary drainage. In such cases, combined intestinal and hepatic transplantation is indicated.

### Indications for Intestinal Transplantation

Individuals can be considered for isolated intestinal transplantation for any disease process associated with intestinal failure such that life-long TPN is required. The indications for intestinal transplantation in these cases include the problems identified in the preceding section associated with or related to an inadequate life quality, an inability to continue TPN as a result of recurrent infections, or a loss of venous access. In contrast, the indications for combined liver and intestinal transplantation are more restrictive and consist only of combined intestinal and hepatic failure.<sup>26,27</sup>

Individuals with evidence of hepatic injury but without overt cholestatic or hepatic synthetic failure, who have intestinal failure, engender a dilemma. In such cases, it is impossible to determine preoperatively which cases can withstand the hepatic insult associated with portal venous diversion during small intestinal transplantation and whether or not recurrent episodes of sepsis or a continuing need for parenteral nutrition during the immediate post-transplant weeks might lead to overt hepatic failure. In such cases, it may be best to err on the side of combined intestinal



and hepatic transplantation rather than risk subjecting an individual with intestinal failure to a major operation (intestinal transplantation) in the presence of doubtful hepatic reserve.

Regardless of whether combined liver or isolated intestinal transplantation is to be performed, all candidates for either procedure should meet the following criteria: (1) their intestinal disease must be life-threatening; (2) continued TPN must either be difficult or dangerous; and (3) the individual's existing life quality should be unacceptable.<sup>27,28</sup>

### Types of Intestinal Transplants

The abdominal viscera can be conceptualized as a cluster of grapes on a common stem or stems. The two central stems are the celiac axis and the superior mesenteric artery. Each of the organs to be transplanted can be conceptualized as a grape arising from one or the other of these two stems<sup>28</sup> (Fig. 1). The stem arteries can be engrafted either to the infrarenal (usual) or supraceliac aorta (less often) using a Carrel patch of donor aorta. The venous drainage of a combined liver-small bowel graft is via the donor vena cava into the recipient's vena cava at the site of the recipient's prior hepatic venous entry into the inferior vena cava. The venous drainage of an isolated small bowel graft is via the donor portal vein into the recipient's portal vein.

With either graft, the ileocecal valve and the

right, or right and middle, colon can be included as part of the intestinal graft to enhance water and electrolyte absorption, prevent intestinal overgrowth, and provide an ileocecal brake to intestinal transit.<sup>27,28</sup>

### Postoperative Management

The principal immunosuppressive agent used in small bowel transplantation is tacrolimus.<sup>26-28</sup> This agent is used because of its increased potency as compared to cyclosporine A and because its absorption is not influenced by the presence or absence of intestinal bile acids. Moreover, the drug is absorbed throughout the intestinal tract from the stomach to the distal small bowel.

Initially, the drug is administered as a continuous intravenous infusion at a dose of 0.1-0.15 mg/kg/day. A plasma level of 2.0-3.0 ng/ml (whole blood level of 20-30 ng/ml) is desirable. As soon as intestinal motility returns and the integrity of the gastrointestinal tract is confirmed, the drug should be administered orally at a dose of 0.15 mg/kg per day. Typically, over the first several days of oral tacrolimus administration, intravenous administration of the drug is continued at a reduced dose to guarantee that an adequate drug level is achieved.

Recipients of small bowel grafts usually receive a 1000 mg intravenous bolus of hydrocortisone intraoperatively immediately after revascularization of the graft. This is followed by a

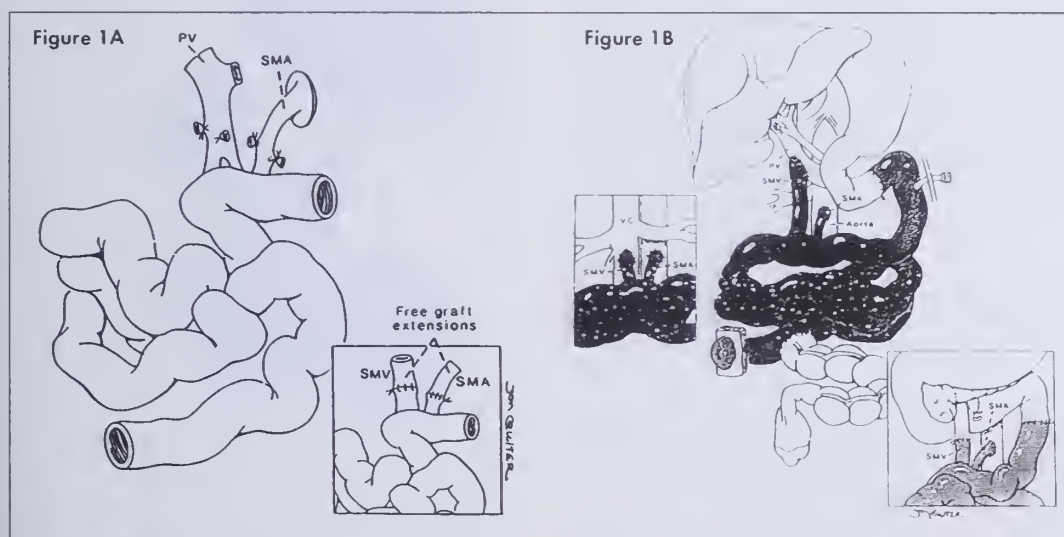


Figure 1. Isolated small bowel transplantation. (A) Donor operation; full-length vascular pedicle of the superior mesenteric artery (SMA) with Correll patch and superior mesenteric vein (SMV) are divided more distally; they can be lengthened on the back table with arteriolar and venous grafts (insert). (B) Recipient

operations. Anastomosis of the full-length of SMA to the aorta and the angled end of the SMV to the portal vein. Alternative method in which the SMV is anastomosed to the recipient SMV inferior to the pancreas. (Lower insert) Option of SMV drainage into the inferior vena cava (upper insert).

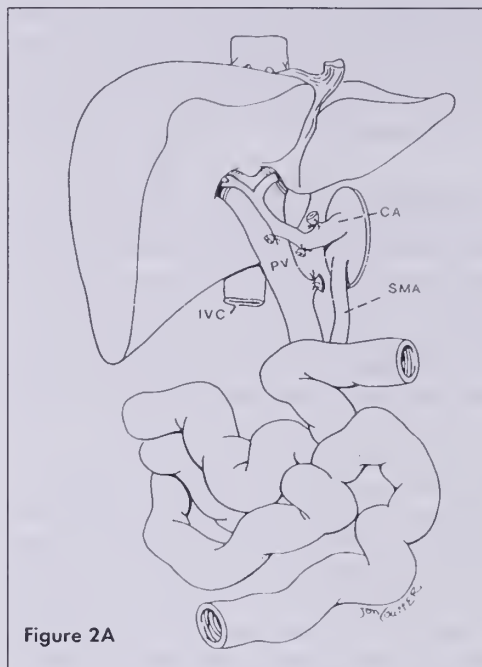


Figure 2A



Figure 2B

Figure 2. Small bowel-liver allograft. Note the continuity of donor portal vein (A). A Correll patch containing the origin of the SMA and the celiac axis is anastomosed to the aorta. Ideally, the venous return from the residual splanchnic viscera of the recipient is anastomosed into the graft portal vein (B). Numerous

options of graft rearterialization and venous drainage have been described elsewhere. (From Todo S, Tzakis AG, Abu-Elmagd K, et al. Intestinal transplantation in composite visceral grafts or alone. *Ann Surg* 216; 223: 1992, with permission.)

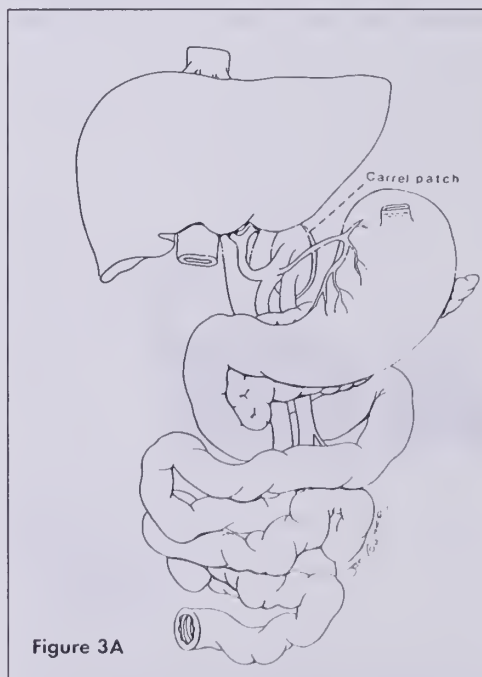


Figure 3A

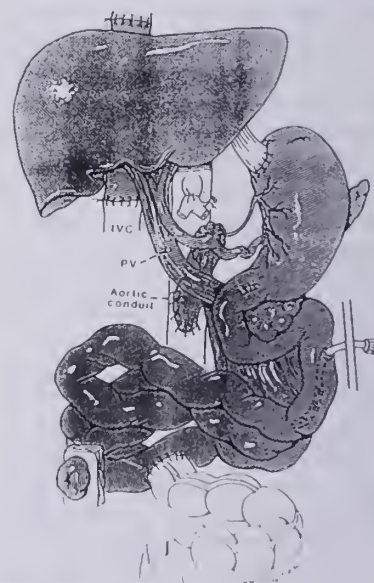


Figure 3B

Figure 3. Multivisceral allograft (A) before and (B) after transplantation. A donor graft splenectomy is performed on the back table. The Correll patch with the origins of the donor superior mesenteric artery and celiac axis are anastomosed to the recipient's

abdominal aorta. (From Todo S, Tzakis AG, Abu-Elmagd K, et al. Intestinal transplantation in composite visceral grafts or alone. *Ann Surg* 216; 223: 1992, with permission.)

decreasing daily dose of glucocorticoids beginning at 100 mg of methylprednisolone that is reduced daily by 20 mg to a basal level of 20 mg/day after 5 days. This dose is gradually reduced over several days to weeks as tolerated to a final dose of 10 mg/day. Ultimately, the steroid therapy is discontinued if possible, such that half the patients become steroid-free at 3 to 6 months post-transplantation.

In order to guarantee renal blood flow and to reduce the adverse effects of intravenous tacrolimus infusions on the kidneys, prostaglandin E1 is infused for the first 5 to 14 days postoperatively at a dose of 0.6 mcg/kg/hour.

Intestinal rejection episodes are treated with intravenous 1 g boluses of methylprednisolone followed by a 5-day tapering cycle of steroids beginning at 200 mg methylprednisolone and declining daily by 20 mg to a level of 20 mg/day, which is tapered gradually thereafter to the lowest possible dose that prevents a recurrence of graft rejection. Steroid-resistant rejection episodes are treated with 5 to 10 days of intravenous OKT3 at a dose of 5-10 mg/day.

### **Graft Monitoring**

Rejection of the small bowel, stomach, and colon are detected by a composite of clinical findings consisting of the patient's overall clinical status, stoma output, stoma color, graft appearance at endoscopy, and graft histology. Graft endoscopy is the mainstay of graft monitoring and should be utilized whenever there is any suspicion of intestinal allograft rejection.

The histologic features of acute cellular rejection of the intestine consist of the presence of activated lymphocytes within the mucosa of the intestinal crypts.<sup>29,30</sup> Untreated rejection leads to loss of villus height, endothelial sloughing and the appearance of a pseudomembranous enterocolitis. Mild episodes of rejection produce a patchy involvement of the intestine, while severe rejection tends to be a diffuse lesion.

Endoscopically, the earliest signs of rejection are the finding of focal areas of mucosal edema, erythema, and alterations in intestinal peristalsis. With more advanced rejection, aphthoid ulcers appear and can progress to broad-based ulcers with overlying pseudomembranes.<sup>31</sup> These endoscopic findings can be localized to a single area early. Typically, the ileum is more severely involved than is the jejunum, probably as a result of its larger content of lymphocytic cells, any of which can be activated to react against the crypt epithelium of the intestinal graft.

The clinical signs of intestinal rejection include

the sudden onset of an ileus, increased stoma output, intestinal bleeding, and fever.

Chronic intestinal graft rejection is characterized by a wasting syndrome associated with marked villous atrophy and deep mucosal ulcerations. More characteristic than the mucosal changes are the vascular and submucosal changes of chronic rejection. These include endothelial proliferation and vascular occlusion, smooth muscle hypertrophy and submucosal fibrosis. Such changes are difficult or impossible to detect endoscopically or with mucosal biopsies and typically require either a full thickness intestinal biopsy or intestinal angiography for their demonstration.

Hepatic rejection in cases of combined intestinal and hepatic transplantation can occur alone or in combination with intestinal rejection. The liver often is spared when overt evidence for intestinal rejections is present. The hepatic component of a combined hepatic plus intestinal graft is monitored in a manner identical to that used for an isolated hepatic graft. Specifically, liver injury parameters are assessed regularly and any abnormality is evaluated for the presence of infection, biliary complications or allograft rejection.

### **Rejection Therapy**

Whenever graft rejection is identified the blood level of the immunosuppressive agent being utilized should be checked. When low levels are detected, the best response may be simply to increase the level of the immunosuppressive agent being utilized.<sup>26,27</sup> Often a "steroid bolus" is administered consisting of 500 mg hydrocortisone in a child or 1 g of methylprednisolone in an adult. In more severe cases, the steroid bolus can be followed by a "steroid recycle" consisting of 200 mg methylprednisolone given intravenously followed daily by a dose that is reduced by 40 mg per day for 5 days and then more slowly using smaller increments to achieve a maintenance dose of 10-30 mg prednisone/day.

Very severe episodes of rejection or recurrent episodes of rejection are managed but by the intravenous administration of 5-10 mg OKT3 for 5 to 10 days.

### **Prevention and Treatment of Infection**

The normal intestine provides an important physical, cellular, and immunologic barrier to the entry of enteric pathogens consisting of bacteria, fungi, and viruses. This complex barrier function of the intestine is disrupted by the combination of cellular rejection mechanisms, immunosuppressive therapy and the anatomic and functional changes induced as a result of intestinal rejection.

Graft endoscopy is the mainstay of graft monitoring and should be utilized whenever there is any suspicion of intestinal allograft rejection.



tion. As a result, the translocation of bacteria, fungi, and viruses to mesenteric nodes is increased and can become pathologic in circumstances associated with excess immunosuppressive, luminal bacterial overgrowth, intestinal motility dysfunction and disruption of the mucosal surface because of rejection, infection, or other types of injury.

Whenever any suspicion of infection is present, broad spectrum antibiotics should be instituted. Antibiotics are given routinely for a minimum of five days immediately postoperatively and for 24 hours after any endoscopic procedure. Overt infections are treated with appropriate courses of antibiotics for 10 to 14 days. Continuous antibiotic prophylaxis against pneumocystis carinii with trimethoprim-sulfa is maintained life-long. Bacterial translocation is suppressed by administration of selective decontamination using a combination of non-absorbable antibiotics for six weeks postoperatively to cover the period of time until repopulation of the lymphatic tissues with recipient lymphocytes occurs.

### Nutritional Support

TPN is continued postoperatively until the integrity of the intestinal graft is documented and intestinal motility returns. This is usually only 5 to 10 days. As soon as is possible, enteral feeding is instituted as a continuous low-volume dilute casein hydrolysate formula that is appropriate for the size of the recipient. The formula used should be lactose free. Fat can be added to the perfusate as medium-chain triglycerides. This type of fat is preferred for the initial several weeks to months following engraftment because the intestinal lymphatics needed for the absorption of long-chain fatty acids need to be reconstituted and are not available for the absorption and transport of long-chain fatty acids to the systemic circulation until such time has passed.

Enteral feeding is advanced progressively with simultaneous weaning of the TPN as is tolerated by the recipient. After several weeks of a semi-elemental diet, it can be progressively replaced by a blenderized diet that should be administered by continuous enteral infusion supplemented by an oral diet as tolerated. After several weeks of such treatment, the enteral feedings can be replaced by oral feedings during the day and ultimately discontinued altogether.

### Monitoring Intestinal Graft Function

Currently, there is no routine method for assessing intestinal graft function. Most intestinal transplant groups use a combination of parameters consisting of standard hematologic and biochemical measures (electrolytes, BUN, and creatinine

as well as minerals such as calcium, phosphate and magnesium), body weight, stomal appearance, and stool output to assess graft function. No individual test, such as the d-xylose absorption test or measurement of the stool fat content have been shown to be sufficiently sensitive to enable them to be used routinely to monitor intestinal graft function.

### Outcome

There are few centers in the world that perform intestinal transplantation. The Pittsburgh experience is by far the largest (62 patients in 4 years),<sup>32</sup> followed by Paris, France;<sup>33</sup> London, Ontario, Canada;<sup>34</sup> Omaha, Nebraska;<sup>35</sup> and a few other centers with a 1- to 2-case experience. The overall patient survival was 56% with a 48% graft survival in the Pittsburgh experience.<sup>32</sup>

Sepsis, post-transplant lymphoproliferative disease, CMV infection, and rejection remain the major causes of failure of grafts and death of recipients.<sup>32,36</sup>

### Summary

Intestinal transplantation became a surgical reality in 1994. However, it remains to be proven as a long-term treatment for intestinal failure. Nonetheless, it has many theoretical, practical, and life quality advantages over life-long TPN. In cases with combined intestinal failure and liver failure associated with TPN, no other alternative currently exists. With increasing experience, this mode of therapy may become a preferred form of therapy. □

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## Shigella in Tulsa County, 1993: Epidemiology, Day Care Center Association, and Control

Glyn G. Caldwell, MD; Debbie Fiegel, RN; Lori Bryant, RN; Debbie Chambers, BS; Pam Rask

Tulsa County experienced an epidemic of *Shigella sonnei* infection and diarrheal disease during 1993. Of the 298 cases documented, 262 occurred in day care centers. There were 227 epidemiologically-linked secondary cases, primarily in parents and siblings. The mode of transmission was primarily person-to-person among family members and children in day care centers. In addition, transmission may also have occurred as the result of fomites in some day care centers. Control was achieved by antibiotic therapy, inspection, and retraining all day care centers' staffs in hand washing techniques and infection control concepts.

**S**higella species have been among the many infectious agents linked to illnesses, especially diarrhea, in institutions, schools, and day care centers.<sup>1-4</sup> Transmission of shigella has primarily been person-to-person or in families via the fecal-oral route, although food- and water-borne epidemics have occurred.<sup>1-3,5,8</sup>

In the United States millions of children have experienced the day care center. As more and more families, especially single-parent families, utilize these services, the risk for a variety of illnesses including diarrhea is large.<sup>5-8</sup> Tulsa is no exception. An estimated 7,000 children attend 225 licensed day care centers either full- or part-time. Many more children are cared for in family-home child care settings, which may be somewhat less

vulnerable to the introduction and transmission of illness.<sup>9</sup>

Beginning in late February 1993, an increased frequency of diarrheal illness occurred in Tulsa County (Fig. 1). The causative agent was *Shigella sonnei*, confirmed by isolation and identification of the organism. This report documents the temporal and spatial distribution of the cases, the occurrence in various day care centers, suspected conditions related to the epidemic, and efforts to control the outbreak.

### Methods

Shigella is required to be reported to either the Oklahoma State Department of Health (OSDH) or the Tulsa City-County Health Department (TCCHD) by physicians, clinics, hospitals, or laboratories. The first case of shigella for the year was reported on January 15, 1993, and was routinely investigated by the TCCHD nurse epidemiologist. The second and third cases occurred on February 3 and February 6 and also were routinely followed up. Three cases occurred on February 24, 25, and 26, which have since been considered the beginning of the epidemic, and cases one through three discounted as representing the usual frequency of occurrence. From January 1 until July 7, 1993, each case was investigated and each day care center was inspected and instructed about management of children with diarrhea. Because of the escalation of cases, a press conference was held on July 8 to alert the public, physicians, and day care centers about the epidemic; to institute more formal surveillance in day care centers; and

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to provide general information about control measures to the public.

All cases reported to the TCCHD were asked to provide either a stool sample or allow the nurse to collect an anal swab for culture, isolation, and identification of any pathogenic bacterial agent present. MacConkey's agar, Hecktoen enteric agar, and GN (Gram negative) broth supplement were used to culture stool specimens utilizing standard methods for the culture and isolation of enterobacteriaceae.<sup>10,11</sup> Commercially dried breakpoint combination panels colorimetric methods<sup>12</sup> were used to determine antimicrobial agent susceptibility and identification of the organism.<sup>10-12</sup>

Epidemiological data about each case and contact were collected by the nurse epidemiologists including data about day care usage, contacts, symptoms, and medical care, using the TCCHD standard form.

Each day care center was reinspected by a TCCHD environmental generalist (registered sanitarian) to ascertain the quality and safety of food preparation and service. The TCCHD nurse epidemiologists, health educators, environmental health generalists, and registered nurse community volunteers provided in-service training for day care center staff. During these visits, a nurse epidemiologist or sanitarian attempted to observe day center practices with regard to food service, diapering infants, sanitizing toys and furniture, and decontamination of diapering areas. She also attempted to observe personal hygiene and hand washing practices of staff and children, diapering, and toileting techniques.

The nurse epidemiologist urged that the day care center manager segregate children with diarrhea and that the staff handling either ill children or children in diapers not be involved with food service. Furthermore, the cook should never diaper or toilet children.

The in-service training consisted of information about the cause and transmission of shigellosis and proper hand washing techniques (both by a TCCHD prepared video and by a demonstration by the educator).

All area school districts and local food service establishments were notified of the epidemic. They were informed of enteric disease prevention methods and urged to assure that soap and paper towels were constantly available in restrooms so that students, employees, and patrons could wash their hands.

A case was defined as a person with loose, frequent stools; with or without fever, abdominal cramps, or blood in the stool; and a positive bacteriological identification of shigella in a stool sample.

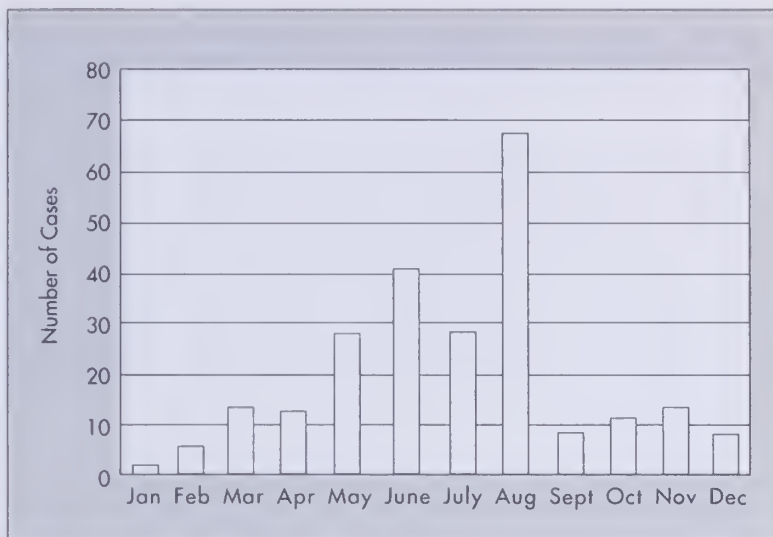


Figure 1. Reported cases of shigella in Tulsa County, 1993.

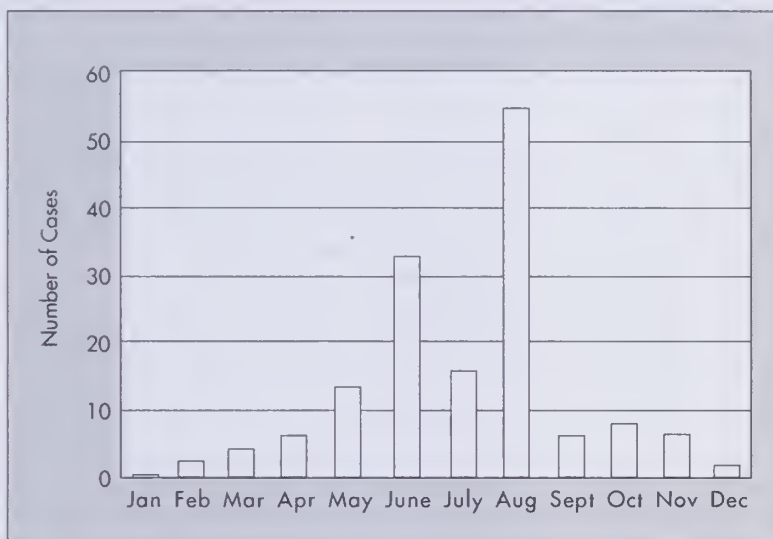


Figure 2. Reported cases of shigella associated with day care centers in Tulsa County, 1993.

## Results

The countywide occurrence of shigellosis is shown in Figure 1 (298 cases). Figure 2 shows the cases associated with day care centers (N=262). The second peak in August followed the press conference reporting the continuation of the epidemic, urging the continued reporting of cases by telephone, and reiterating the need for strict hand washing measures in day care centers and food service establishments.

The laboratory data indicated that all day care-related cases were due to *S. sonnei* and the only other shigella species isolated or reported (*S. flexneri*) was isolated from persons with out-of-county

Table 1. Demographic Characteristics of *Shigella sonnei* Cases in Tulsa County Day Care Centers January 1 to December 31, 1993

Age Group	Males					Females					Total
	White	Black	American Indian	Other & Unknown	Total	White	Black	American Indian	Other & Unknown	Total	
<1	—	3	—	—	3	—	3	—	—	3	6
1	7	10	—	—	17	8	2	—	—	10	27
2	7	7	5	—	19	4	3	—	—	7	26
3	13	3	2	2	20	7	11	1	2	21	41
4	6	2	—	—	8	10	7	—	1	18	26
5-9	13	5	1	1	20	16	5	—	—	21	41
10-14	1	1	—	1	3	5	1	—	—	6	9
15-19	1	—	—	—	1	3	3	—	1	7	8
20-24	1	—	—	1	2	8	6	2	—	16	18
25-29	3	1	—	2	6	18	2	—	—	20	26
30-34	2	—	—	—	2	10	—	—	—	10	12
35-39	3	1	—	—	4	6	3	1	—	10	14
40+	2	1	—	—	3	5	—	—	—	5	8
	59	34	8	7	108	100	46	4	4	154	262

travel and no day care association. Table 1 shows the age-race-sex characteristics of the affected individuals. The largest age group affected were the 0- to 4-year-olds (126, 48.1%). There were more whites and more females affected in the older age groups (>20 years old), largely because they are the more usual care givers.

Secondary cases (Table 2) occurred among family members, with siblings the most frequent, 95 (35.2%), and mothers second, 65 (14.1%). Only 18 (6.7%) were identified as care givers in a day care center.

Among symptoms (Table 3) reported, diarrhea was the most prevalent, 236 (87.4%), with fever second, 199 (73.7%). Thirty-six, or 13.3%, of the patients were hospitalized because of this illness and one adult male in an intensive care unit nearly died.

The day care-associated cases, 262 (87.9%), did not occur continuously at any day care center (Table 4), but as micro-epidemics that for the most part declined once the center was reinspected and staff retrained (Table 4). In only 9 of 20 day care centers were inspection and in-service training followed by cessation of the occurrence of new cases. In five centers, the occurrence of new cases continued for 48 to 204 days.

Even though the department staff urged the segregation of children with diarrhea and staff for only those children, it was clear that not all day centers complied. In fact, some smaller centers clearly were unable to segregate ill children because of the limited number of staff. Occasional day care center staff reported that management

resisted any segregation recommendations that were made by the TCCHD staff.

In one day care center, the use of wash cloths seemed to be related to the occurrence of cases of diarrhea. When the nurse epidemiologist urged that disposable cleansing wipes be used, the number of cases declined so that only one case occurred after that. Other practices that were observed by the nurse epidemiologists that may have contributed to the epidemic were failure to sanitize the diaper-changing area after each child; failure to segregate ill children; staff caring for diapered children and also handling food; improper hand washing by both staff and children; lack of assisted, supervised hand washing by children; recontamination of hands by turning off tap with bare hands; and potty chairs in play areas.

That transmission occurred in the day care center can be shown by the number of day care center staff infected and ill (18) and the occasional unusual micro-organism isolated from a care giver or child. One care giver and a child both had *S. sonnei* and *Blastocystis hominis* isolated and identified from stool cultures. Another care giver and one of her charges were both found to be infected with *Giardia lamblia*.

## Discussion

As more parents utilize day care, either home care or day care centers, their children will be at increased risk for becoming ill with diseases transmitted from other children.<sup>1,6,7,9,15-19</sup> Children in day care situations can be infected by bacteria, parasites, and viruses, with fungal infections

**Table 2. Secondary Cases Other Than Day Care Contacts Among *Shigella sonnei* January 1 to December 31, 1993**

Relationship to Index Case	Number	Percent
Mother	65	28.7
Father	24	10.6
Sibling	95	41.8
Child	11	4.8
Wife	4	1.8
Husband	2	0.9
Other Relative:		
Child	8	3.5
Adult	8	3.5
Non-Relative:		
Child	1	0.4
Adult	9	4.0
Total	227	

occurring least often.<sup>1,15,17,19</sup> Diseases attack the respiratory tract, gastrointestinal tract, and skin, and occasionally invade the central nervous system and cardiovascular system.<sup>1,17,19</sup> The gastrointestinal system is especially vulnerable to infections, second only to the respiratory system.<sup>1,6-8,20</sup> Among the leading causes of gastrointestinal disease, especially acute diarrheal illness, are the shigella species, especially *S. sonnei*.<sup>5,6,8,19,21-23</sup>

The frequency of diarrheal disease and epidemics appears to be related to the number of children ill,<sup>15</sup> age of children,<sup>1,6,25,26</sup> children in diapers,<sup>7,25,26</sup> presence of pre-toilet or non-toilet trained children,<sup>1,6,15,25</sup> number of staff,<sup>6</sup> movement of staff from caring for children in diapers to other age groups,<sup>1,25</sup> both toileting and food handling by some staff,<sup>1,6,25,26</sup> community towels,<sup>5</sup> poor staff hygiene,<sup>1,8,15,17</sup> poverty or lower socioeconomic status,<sup>18,21</sup> presence of toys and materials to serve as fomites,<sup>1,5,6,8</sup> poor hygiene of young children themselves,<sup>1,5,8,17</sup> free mixing or close contact between children in day care centers,<sup>1,5,17</sup> and asymptomatic carriage by either staff or children.<sup>4,6,17</sup> In one study, fecal coliforms were identified from samples collected from tap handles, diaper change areas, flush handles, toilet surfaces, classroom floors, kitchen counters, toys, table tops, wash basins, and cribs.<sup>8</sup> The percent of positive cultures was increased during epidemics, especially from hands, toys, and classroom equipment.<sup>8</sup>

The transmission of enteric pathogens, especially shigella species, by fomites and the fecal-oral route depends on the low number of organ-

**Table 3. Symptoms in *Shigella sonnei* Cases (N=270)**

Symptom	Frequency of Occurrence	
	Number	Percent
Diarrhea	236	87.4
Blood in Stool	86	31.8
Fever	199	73.7
Abdominal Cramps	134	49.6
Nausea	144	53.3
Vomiting	133	49.3

isms needed in the inoculum and frequency of hand-to-mouth contact by young children.<sup>6,24</sup> In one study, 10% of persons became infected when fed as few as ten viable shigellae; infection rose to 50% with 100 to 500 viable organisms.<sup>24</sup> Young children have been shown to have frequent hand-to-mouth contact,<sup>8</sup> as often as every two to three minutes,<sup>6</sup> providing ample opportunity for infection when ill children are present and handling toys or other items in the same environment.

Children attending day care centers seem to be at higher risk within the first one to two months of enrollment.<sup>6,20,25</sup> Males were more likely to be infected than females<sup>20</sup> and younger children more often than older.<sup>6,20</sup> Other factors which seemed unrelated to the occurrence of diarrheal diseases in day care centers were ethnicity, day care center size, and previous day care center attendance.<sup>20</sup>

During the epidemic in Tulsa County, we observed that children from 0 to 4 years of age were the age group most commonly affected (47.2%) as reported in past studies. In this age group males outnumbered females, but in all other age groups females predominated (Table 1). Whites were effected more often (63%) and African Americans about half as often (31.8%).

Day care centers affected during this epidemic varied from large to small (Table 4) similar in size to those not affected. The highest attack rate occurred in a moderate-sized day care center (D), but the second highest attack rate occurred in a small center (H) (Table 4). In only one day care center (D) was a fomite, non-disposable washcloths, a potential cause of transmission. All other cases seemed related to person-to-person spread and poor hand washing techniques. There was no evidence for food-borne transmission in any of the day care centers, although all were inspected by departmental registered sanitarians. Obviously, toys and other equipment could have served as fomites for child-to-child spread.

Some smaller [day care] centers clearly were unable to segregate ill children because of the limited number of staff.



Table 4. Distribution of Occurrence of *Shigella* in Day Care Centers with Three or More Cases During 1993 Outbreak

Day Care Centers	Number of Children Enrolled	Number of Staff	Number of Ill Children	Attack Rate %	Date of Index Case Onset	Date of Last Case	Intervention Date
A	72	10	6	8.3	2-1	3-1	4-2
B	33	6	4	12.1	3-4	3-18	3-30
C	120	14	14	11.7	3-11	11-9	4-15
D	139	21	23	16.5	3-21	6-21	6-3
E	178	12	7	3.9	4-22	5-4	4-27
F	165	20	5	3.0	4-30	5-22	5-11
G	19	4	3	15.8	5-19	5-26	6-8
H	125	18	14	11.2	6-1	11-3	8-20
I	85	12	10	11.8	6-5	7-1	6-17
J (2 sites)	212	18	5	2.4	6-19	11-17	6-30, 11-19
K	59	10	3	5.1	6-20	7-10	7-8
L	54	10	3	8.9	6-25	7-9	7-3
M	68	9	6	8.8	7-19	7-29	7-26
N	552	50	20	3.6	7-26	8-30	8-13
O	96	20	6	6.2	8-2	9-9	10-27
P	170	24	12	7.1	8-8	11-6	8-25
Q	96	8	3	3.1	8-28	10-5	
R	102	24	3	2.9	9-19	10-11	10-13
S	175	23	4	2.3	10-28	11-24	9-17
All Others*	1,136	167	26	2.3			
Total	5,186	480	177	3.4			

\*24 Day Care Centers with one or two cases.

Although most cases documented by culture were day care-related ( $N=184$ , 68.1%) there were 227 cases linked epidemiologically to another case, although not all were cultured and investigated individually (Table 2). In this group it is clear that the majority of persons secondarily infected were either parents or siblings (Table 2). The mother was the most frequent single individual likely to be infected in the household. Of other care givers infected, 12 were staff at day care centers and 11 were health care workers. Only six cases occurred among food service workers, none of whom were day-care related. As far as the nurse epidemiologists and registered sanitarians could determine, no secondary cases occurred as a result of these food service workers.

In previous studies an infected child in a day care center has caused transmission to other family members,<sup>1,5,6,9,15,25,27,28</sup> especially siblings.<sup>1,5,15,27,28</sup> Mothers, who are often the primary care giver in the home, are also at high risk, similar to what was found in Tulsa.<sup>6</sup> Although adults are less likely to infect their children,<sup>28</sup> in 11 cases reported here (Table 2) the parent's date of onset preceded that of the child.

Obviously, staff are at increased risk when caring for children infected with shigella and other gastrointestinal pathogens because they must change diapers, clean up incontinent children, and clean stool and vomitus from work surfaces and floors.<sup>8</sup> Only 12 day care center staff were identified with *S. sonnei* during this epidemic at eight different day care centers. Three centers had more than one ill staff member.

In one study of staff in 60 day care centers, 375 responded to a questionnaire.<sup>26</sup> Of that group, 43 reported having diarrhea during a seven-month period. This group also indicated that some combination of food service or food preparation and diapering occurred either daily (9-26%) or not every day (74-91%), but none indicated never.<sup>26</sup>

The department at first attempted to control the epidemic by providing training to affected day care centers, instigating case surveillance at those centers, urging segregation of staff and ill children, and inspecting the day care centers' food preparation/service areas. Because the epidemic did not diminish, the department began inspecting all licensed day care centers and providing in-service training about the prevention of enter-

ic diseases. Diarrheal disease surveillance was also begun in all licensed day care centers in July. Because shigellosis is primarily a fecal-oral transmitted disease, the training concentrated on teaching hand washing to staff and urging frequent hand washing by children and staff after diaper changing and restroom usage and before any change of duties, especially involving food handling or feeding children. Hand washing of children upon arrival at the day care center was also recommended.

Hand washing has been considered the mainstay of disease transmission prevention because it has been demonstrated to be effective in many circumstances.<sup>5-9,17,29-32</sup> Other control measures that have been recommended and used are antibiotic therapy; segregation; exclusion of ill or infected children; center closure; sanitizing toys and environmental surfaces with disinfectant; washing children's hands upon arrival, after diapering or toileting, and prior to eating; removal of common towels and cups; increased use of disposable wipes and diapers; improved staff training; staff licensure; cessation of center admissions; more frequent contact with and monitoring by health professionals; avoidance of staff providing food service and bowel service; and convalescence in day care isolation.<sup>1,3,5,6,9,17,30,31</sup>

Although we did advocate exclusion of children with active diarrhea or fever, we did not exclude ill children with vigor nor did we close any centers, because we felt and other evidence suggests that when these methods are used, parents who need to work simply transfer their children to other centers or home day care. Such transfers provide new sites for transmission<sup>1,30,31,33</sup> and new opportunities for spread into the community.<sup>33</sup> In fact, with the exception of improved hygiene of both staff and children by hand washing and environmental cleansing, there is limited evidence to support any of the above control measures and virtually no comparisons in controlled trials.<sup>6,30,31,33</sup>

The epidemic in Tulsa County waned in the latter months of the year and it is virtually impossible to determine whether or not this resulted from the effort expended in education, inspection, public notification, and surveillance. We feel, however, that these efforts were responsible, because in some day care centers the outbreak ceased quickly following in-service training.

Although the department did not provide antibiotic treatment, each shigella isolate was tested for sensitivity and the child's usual medical doctor was notified of the results and prescribed an appropriate antibiotic. Every shigella isolate was resistant to one or more antibiotics, but none to all antibiotics. Antibiotics have been shown to

reduce the seriousness of symptoms and duration of illness when the organism is not antibiotic resistant.<sup>1,4,5,30,31</sup> However, antibiotic treatment is not absolutely essential, and indiscriminate use can increase the risk of developing antibiotic-resistant strains.<sup>30</sup>

Because of the many micro-epidemics in different day care centers and the apparent lack of knowledge on the part of day care center operators about appropriate actions and the observed lack of quality personal hygiene and child care practices by staff, it would be appropriate to consider requiring day care operators to undergo training and certification. All day care staff ought to receive basic training and licensure similar to that required for food service workers and restaurant managers.

### Conclusion

In summary, a 298-case epidemic of *S. sonnei*, with 262 cases in day care centers and 227 epidemiologically linked secondary cases, primarily in siblings and parents, occurred in Tulsa County during 1993. This epidemic was characterized by person-to-person spread among family members and children in day care centers. In addition, the possibility that in some centers transmission also could have occurred via fomites (washcloths and non-disinfected toys) was observed. Control efforts included appropriate antibiotic therapy, case interview, and stool culture for shigella, and diarrhea surveillance in all licensed day care centers, along with inspection and retraining of all centers' staff in hand washing and infection control concepts. The media were utilized to educate the public as well about the importance of hand washing. The epidemic waned following these actions, which we feel contributed to containment.

Hand washing has been considered the mainstay of disease transmission prevention because it has been demonstrated to be effective in many circumstances.

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## Ligamentous and Tendinous Support of the Pisiform: Anatomic and Biomechanical Study

Tomas Pevny, MD; Ghazi M. Rayan, MD; Davis Egle, PhD

Twenty-five formalin-preserved cadaveric wrists were dissected and the relationship of the pisotriquetral joint (PTJ) and its surrounding soft tissue structures were defined. An additional 4 fresh frozen wrists were examined in longitudinal and transverse sections. These anatomical studies showed the extensor retinaculum to have a complex insertion into the pisiform, flexor carpi ulnaris, fifth metacarpal, pisometacarpal ligament, and the abductor digiti minimi muscle. A capsuloligamentous structure on the medial aspect of the pisotriquetral joint was also identified. Biomechanical testing was performed on 12 fresh cadaver wrists and the results were compared to the anatomical findings to determine the contribution of surrounding soft tissue structures to pisotriquetral joint stability. Mechanical testing showed the soft tissues around the pisotriquetral joint to be strongest proximally and distally and weakest medially. Transection of the transverse carpal ligament resulted in increased lateral motion of the pisiform, but there was no significant decrease in stiffness. This study provides insight into the etiology of pisotriquetral joint instability and dysfunction.

The pisiform is considered to be a sesamoid bone embedded within the flexor carpi ulnaris (FCU) tendon, but it is also included in the prox-

imal carpal row. Kinematically, it has been described to comprise part of the wrist medial rotation column.

The pisiform ossifies at a mean age of 8 years and 9 months and is fully developed by the age of 12.<sup>1</sup> Although it does not play an important role in wrist kinematics, the pisiform contributes indirectly to wrist and hand function through its multiple soft tissue attachments and articulation with the triquetrum. The pisiform is pea-shaped and has a slightly concave dorsal articular surface.<sup>2</sup> The pisiform is the only carpal bone that has a single articulation and any tendinous insertion. Phylogenetically, the pisiform bone probably served a function similar to the os calcis in humans, especially in quadropaedic animals.

The pisiform can be a possible source of medial-sided wrist pain. Damage to the surrounding structures of the pisiform can lead to instability and dysfunction of the joint. The purpose of this investigation was to study anatomically the pisiform and its surrounding soft tissue structures and to correlate these findings to mechanical stress testing of the pisotriquetral joint (PTJ). This should determine the contribution of these soft tissue structures to PTJ stability and provide insight into the cause of PTJ dysfunction.

### Materials and Methods

Forty-one cadaver wrists were used for this study. Twenty-nine were used for anatomic dissection and 12 for biomechanical testing.

**Anatomical Dissection.**—Twenty-five formalin-preserved cadaver wrists were dissected using loupe magnification. The pisiform, pisotri-

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Figure 1. Cadaver specimen in hand holder connected to MTS machine.

quetral joint (PTJ), and all their soft tissue attachments were examined. The skin and subcutaneous tissues were removed. The pisiform was identified and all soft tissue attachments, superficial and deep, were dissected. Measurements of the pisiform and its ligaments were obtained and recorded. The pisiform was removed subperiosteally, the PTJ was exposed and triquetral relationships were examined. Additionally, four fresh cadaver wrists were frozen and sectioned longitudinally (two wrists) and transversely (two wrists) using a band saw for cross sectional examination.

**Biomechanical Testing.**—Twelve fresh frozen cadaver hands were used for PTJ stress testing. Each hand was thawed at room temperature for 24 hours prior to testing. The skin and subcutaneous tissues were sharply removed, and soft tissue structures medial to the wrist were protected. A drill bit was used to place a central hole in the pisiform from the medial side. A 3 mm stainless steel wire with plastic coating was passed into the hole and looped onto itself.

The hand was then secured into a specially designed hand holder. The holder and testing wire were attached to a material testing system (MTS) connected to a computer for data analysis (Fig. 1). The design of the hand holding device allowed each specimen to be tested in four directions:

medial, lateral, proximal, and distal. In medial direction the force was directed from lateral to medial.

The sequence of stressing each specimen was changed for the last six specimens in order to limit result bias from tissue fatigue. The design of the hand holder allowed rotation of the holder on the MTS machine to change the direction of stress without disturbing the system.

Each specimen was pretensioned at 24 newtons force to eliminate slack in the wire and to establish a standard base line. We observed from a pilot study that 12 mm of excursion was the value at which the soft tissues remained intact and the wire did not break through bone. We also observed that the wire would break through bone prior to ligamentous failure. Thus, stiffness was the only variable tested. The force generated in the tissues was recorded on computer. By plotting force (Y-axis) versus tissue elongation (X-axis) the stiffness of the tissue was determined as the line slope.

The transverse carpal ligament (TCL) was sectioned in ten specimens following initial testing in the 4 directions and testing was carried out again in order to determine the effect of TCL release on PTJ stability.

For each of the 4 directions tested there were twelve values (twelve specimens), whereas for the TCL sectioning group there were ten values for each direction tested (ten specimens). The mean stiffness and standard deviation for each direction tested were calculated. The difference between the means was tested for statistical significance using students T test, analysis of variance, Duncan's multiple range test for variability, and a Kroskal-Wallis non-parametric analysis of variance.

## Results

**Anatomical Dissection.**—The pisiform was separated from the thick anterior skin by a thin layer of adipose tissue. The skin was bound to the underlying FCU, pisiform, and abductor digiti minimi (ADM), by fibrous bands and the palmaris brevis muscle. The ulnar nerve and artery were always intimately related to the pisiform bone with the nerve being medial to the artery and closer to the pisiform.

The posterior surface of the pisiform was slightly concave and occupied mostly by articular cartilage. Degenerative changes were noted in all specimens, most of which were mild to moderate. These changes were seen equally on the pisiform and the triquetrum. The anterior aspect of the pisiform was domed shaped and completely covered with soft tissue attachments. These soft tissue structures include the FCU, TCL, ADM, ex-



tensor retinaculum, pisometacarpal ligament, pisohamate ligament, volar carpal ligament, PTJ capsule, and a superficial fibrous band extending from the pisiform to the hook of the hamate. The FCU tendon and ADM muscle appeared as a continuous structure and, together with the TCL and extensor retinaculum, formed a soft tissue confluence over the anterior surface of the pisiform (Fig. 2).

Proximally, the FCU had a 2 cm long and 1 cm wide tendinous portion. The FCU tendon attached into the proximal anterior aspect of the pisiform. Our longitudinal frozen sections showed clearly that the FCU tendon was attached to the anterior aspect of the pisiform rather than imbedding the pisiform (Fig. 3). The FCU tendon was also supported posteriorly by the extensor retinaculum and anteriorly and laterally by the TCL. It appeared to be the most substantial proximal stabilizer of the pisiform. The extensor retinaculum attached into the distal 7-8 mm of the FCU tendon posteriorly. The extensor retinaculum also attached to the medial margin of the pisiform and in the proximal 10-15 mm of the ADM muscle (Figs. 2 & 4). These retinacular fibers cross perpendicularly to the pisometacarpal ligament and deep to the ADM muscle attaching to the fifth metacarpal base at a 90° angle to the pisometacarpal ligament. The extensor retinaculum proximal to distal dimension averaged 3.5 cm and 1.5 mm in thickness. The meniscal homolog of the triangular fibrocartilage complex, which was best seen on frozen longitudinal sections was found to be a thick structure attaching to the proximal aspect of the PTJ capsule.

The ADM had a muscular origin from the distal and medial aspects of the pisiform that covered most of its distal pole. The pisometacarpal ligament was deep to the ADM, attaching to the distal posterior surface of the pisiform and extending distally to the base of the fifth metacarpal (Fig. 5). It averaged 10 mm long and 1.5 mm thick. A hiatus with an inverted "V" configuration existed lateral to the pisometacarpal ligament between the pisometacarpal and pisohamate ligaments. It contained branches of the ulnar artery and nerve surrounded by adipose tissue.

The pisohamate ligament was much thicker and stronger appearing than the pisometacarpal ligament (Fig. 6). Its attachment into the distal pisiform was lateral to that of the pisometacarpal ligament. Its fibers were oriented distally and laterally. The pisometacarpal and pisohamate ligaments formed a 45° angle to one another. The pisohamate ligament averaged 8 mm in width and 6 mm in thickness. This structure formed a confluence of soft tissues over the hook of the hamate

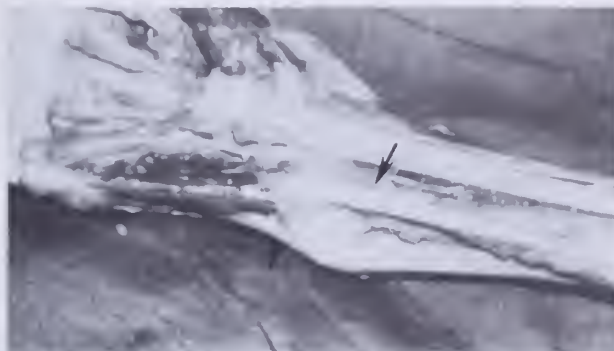


Figure 2. Antero-medial view of right wrist showing medial aspect of flexor carpi ulnaris tendon (most proximal structure), abductor digiti minimi, and extensor retinaculum (most posterior structure). The extensor retinaculum (small arrow) is attached into flexor carpi ulnaris (large arrow) and abductor digiti minimi.



Figure 3. Longitudinal section of right wrist through the pisiform, triquetrum, and hamate showing flexor carpi ulnaris tendon (large arrow, proximal and anterior) attaching into anterior pisiform. The thick pisohamate ligament (small arrow) can also be seen.



Figure 4. Transverse section of right wrist from proximal to distal showing the extensor retinaculum (large arrow) attaching into medial pisiform and abductor digiti minimi (small arrow). The loose pisotriquetral joint capsule is in proximity to the ulnar nerve and artery. Also note attachment of transverse carpal ligament into lateral pisiform.



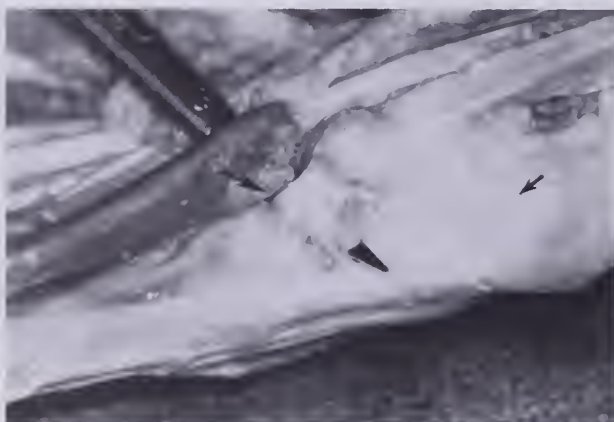


Figure 5. Anteromedial view of the right wrist. Scissors are distal to pisiform. The pisometocarpal ligament (large arrow) is identified beneath the obductor digiti minimi, which is detached from the pisiform. The fibers of the extensor retinaculum (small arrow) are oriented perpendicularly to those of the pisometocarpal ligament.

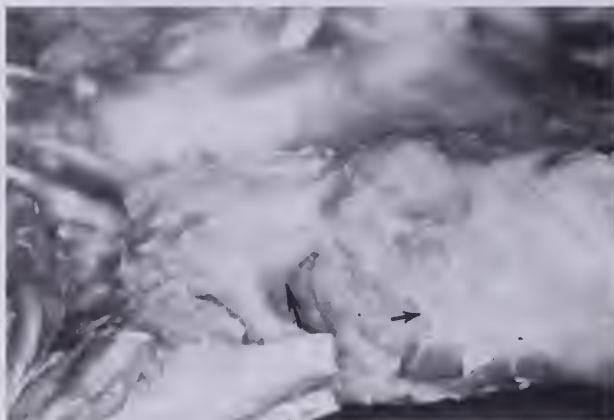


Figure 6. Anteromedial view of right wrist showing the extensor retinaculum (small arrow), the attachments of the thick pisohamate ligament (large arrow) from distal lateral pisiform to hamate.

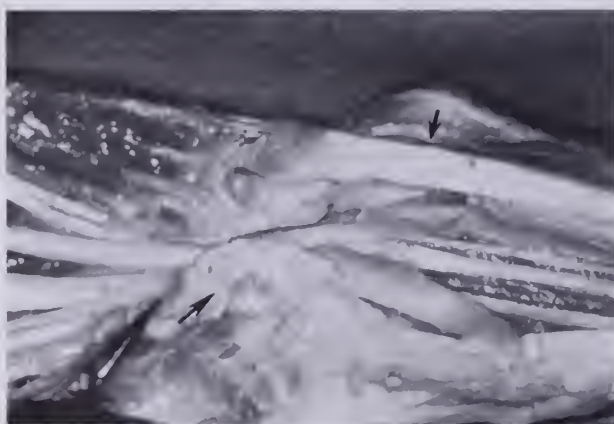


Figure 7. Anterolateral view of left wrist showing attachment of transverse carpal ligament (large arrow) into lateral aspect of pisiform, hamate, and flexor carpi ulnaris (small arrow).

together with the flexor digiti minimi, opponens digiti minimi, TCL, and a superficial fibrous band running from the pisiform to the hook of the hamate. This superficial band was anterior to the ulnar artery and nerve, whereas the pisohamate ligament was deep to these structures.

The TCL appeared to be a strong structure which attached into the hook of the hamate, pisiform, pisohamate ligament, and FCU tendon (Fig. 7). It also had attachment to the anterior lateral side of the PTJ capsule.

In all specimens, the PTJ capsule was a loose but strong appearing structure and formed the centerpiece over which most of the soft tissues attached. Laterally the capsule was thin but reinforced by the TCL anteriorly and the volar carpal ligament posteriorly. The most distinct part of the capsule was a 10 mm wide and 1.0 mm thick capsuloligamentous structure with transverse running fibers on the medial border. This structure was deep to the extensor retinaculum and was the most substantial part of the capsule medially. The capsule was found to be thin proximally and distally. The weakest portion of the capsule appeared to be between the hiatus of the pisometacarpal and pisohamate ligaments. The capsule was also thin proximally where it was supported by the meniscal homolog of the triangular fibrocartilage complex.

**Biomechanical Testing.**—The mean stiffness and standard deviation for each direction tested are listed in Table 1. For the twelve specimens tested, the average stiffness was greatest when tested in a proximal direction and least when tested in a lateral direction. When the four directional stress values were compared to one another, there was a statistically significant difference between the proximal and lateral groups. Overall, the stiffness was greatest in the vertical plane of the pisiform. The values for stiffness were less after the TCL was sectioned, but without statistical significance, even though a 21% decrease was observed when tested laterally.

## Discussion

Weston and Kelsey<sup>3</sup> in a postmortem arthrography study found that the PTJ has direct communication with the wrist joint. Cone et al.<sup>4</sup> used computerized tomography in cadaver wrists and described the PTJ as an anatomical landmark that represents the level of Guyon's canal. Salman and Ullah,<sup>5</sup> in a cadaver study, found the extensor retinaculum to have medial attachments into the medial styloid, pisiform, and triquetrum.

We found the soft tissue attachments to the pisiform include the FCU, extensor retinaculum, ADM, TCL, ulnar collateral ligament, triangular

fibrocartilage complex, pisohamate ligament, pisometacarpal ligament, and PTJ fibrous capsule. We also confirmed the presence of a ligamentous band running from the pisiform to the hook of the hamate as described by Hayes et al.<sup>6</sup> The attachments of the extensor retinaculum into the medial pisiform, pisometacarpal ligament, FCU tendon, and ADM muscle were not emphasized previously. The extensor retinaculum appears to add medial support to the pisiform.

We found a distinct capsuloligamentous structure on the medial side of the PTJ, and this seems to contribute stability. Injury to this structure may cause pain and lateral instability of the pisiform. We agree with Kropp<sup>7</sup> and Carroll<sup>8</sup> that the lateral part of the PTJ capsule attaches to the volar carpal ligament. The volar carpal ligament was a strong support of the lateral aspect of the pisiform. We also found the capsule to be loose and not completely surrounding the PTJ as described by Weston and Kelsey.<sup>3</sup>

Under normal circumstances there are multiple dynamic forces acting on the pisiform that cause considerable motion between the pisiform and triquetrum. The pisiform derives its stability from soft-tissue attachments. It has a flat articulation with the triquetrum that does not contribute to any stability. The normal forces of the FCU tend to pull the pisiform proximally and medially. Therefore it is not surprising to find the lateral structures, including the TCL and volar carpal ligament, more developed and stronger than the medial soft tissue structures. Vasilas et al.<sup>9</sup> in a kinematic study of the PTJ, described radiographically the normal motion occurring at the PTJ. Under normal circumstances, the width of the PTJ, on a lateral x-ray film with the forearm in 30° of supination, is between 1 mm and 4 mm wide. This space widens in flexion and narrows in extension. The pisiform also overrides proximally in flexion and distally in extension. This amount of motion, even under stable conditions, may lead to articular cartilage changes in the presence of soft tissue imbalance. Previous studies documented degenerative changes in the pisiform articular surface following instability and pain.<sup>10,11</sup> Compromising soft tissue constraints of the pisiform by injury increases motion and secondary arthrosis at the PTJ. Our mechanical testing showed unexpectedly less stiffness of the tissues medial to the pisiform after sectioning the TCL. Following carpal tunnel release the normal medial and lateral excursion of the pisiform may be increased leading to arthrosis at the PTJ in susceptible patients. Pisiform pain following carpal tunnel release has been described.<sup>10</sup>

The exact function of the pisiform is not known,

**Table 1. Mean Stiffness of Each Group Tested Before (I) and after (II) Transverse Carpal Ligament Release**

Group	(I) Stiffness (N/mm)	(II) Stiffness (N/mm)
(1) Medial	7.60 ± 3.28	7.58 ± 2.57
(2) Lateral	7.45 ± 2.15*	5.87 ± 1.87
(3) Proximal	10.06 ± 4.40*	9.41 ± 2.94
(4) Distal	9.26 ± 4.93	8.55 ± 2.05

\* = Statistically significant difference (p < 0.05) between these two variables. A statistically significant difference was not noted after release of transverse carpal ligament in any direction.

but aside from being a focal point of soft-tissue attachment on the medial wrist it acts as a lever, much like the patella, and increases wrist flexion force. Arner et al.<sup>13</sup> used isometric and isokinetic testing to compare pisiformectomy with contralateral limb control. They found that pisiformectomy decreased wrist flexion strength without clinical significance or loss of range of motion. The soft tissue confluence over the pisiform allows subperiosteal pisiform excision and repairing the tissues without disturbing the FCU insertion. This should prevent significant decrease in wrist flexion force following pisiform excision.

The FCU tendon covers the proximal and anterior aspects of the pisiform. The function of this musculotendinous unit is dependent on the pisiform to act as a mediator transforming the load to the pisometacarpal and pisohamate ligaments to flex the wrist. FCU enthesopathy is the second most common cause of PTJ dysfunction after secondary arthrosis.<sup>10</sup> Soft tissue failure secondary to FCU pull with forced extension of the flexed wrist can lead to distal pisiform dislocation.<sup>14</sup> Immerman<sup>15</sup> considered this mechanism to be the most common cause of pisiform dislocation as compared to direct trauma. Our results show the FCU, pisometacarpal, and pisohamate ligaments to be the main stabilizers of the pisiform. Unlike cadaver wrists, in living humans the contraction of the FCU probably exerts additional force on the pisiform.

Hayes et al.<sup>6</sup> described a fibrous band superficial to the pisohamate ligament passing from the pisiform to the hamate. Ulnar nerve compression, "pisohamate hiatus syndrome," may be caused by this band. Ulnar neuropathy may also be caused by PTJ instability. The ulnar nerve lies on the lateral side of the pisiform. Increased motion of the pisiform may cause nerve irritation or compression by distorting the Guyon's canal anatomy. The incidence of ulnar neuropathy associat-

The exact function of the pisiform is not known, but... it acts as a lever, much like the patella, and increases wrist flexion force.

ed with PTJ dysfunction has been reported to be 33%.<sup>8</sup> During ulnar nerve decompression in this area, care should be taken not to injure the pisohamate ligament. Damage to this strong supporting structure can potentially lead to PTJ instability.

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It is apparent that the majority of the uninsured in Oklahoma are in groups with annual incomes which allow a majority of persons within those groups to afford health insurance.

## Medical Savings Accounts and the Uninsured in Oklahoma

Glenn P. Dewberry, Jr., MD

Medical savings accounts (MSAs) and medical IRAs are important components of a "market-based" strategy for health care reform that have been opposed by many physicians for several reasons including lack of the applicability of these concepts to solving the problem of the uninsured. On closer inspection of the uninsured in Oklahoma, it is apparent that the majority of the uninsured in Oklahoma are in groups with annual incomes which allow a majority of persons within those groups to afford health insurance. Medical savings accounts are flexible, affordable, and portable forms of health coverage which are already being used in other states by significant numbers of persons with annual incomes similar to the majority of Oklahomans who are uninsured. Physicians are encouraged to support the implementation of these concepts as well as other market-based concepts in order to bring about fiscally responsible and truly effective health care reform.

Medical savings accounts (MSAs) combined with medical IRAs in conjunction with tax law changes making health care expenses deductible are "market-based" concepts which have been advocated by many groups engaged in the national debate on health care reform.<sup>1-3</sup> Objections to these strategies are prevalent among physicians.<sup>4</sup> One argument against medical savings accounts is that the problem of the uninsured is not addressed and, therefore, cost shifting within the

system would continue to be a significant problem. The goal of this article is to demonstrate that market-based strategies do have potential for improving access to health insurance for the majority of uninsured in Oklahoma.

### Medical Savings Accounts

A common misconception is that MSAs are only appropriate for people in higher income brackets; however, one insurance company has noted that 30% of its clients who have MSAs earn annual incomes of \$15,000 or less, and 50% of clients with MSAs earn annual incomes of \$25,000 or less. Poverty level for a family of four in Oklahoma is set at an annual income of approximately \$14,800, and therefore it can be concluded that MSAs are already being successfully utilized by those in lower income brackets. There are any number of variations of the medical savings account concept,<sup>5-7</sup> but the basic plan includes a high-deductible catastrophic insurance policy which would require a relatively low premium. Once the deductible has been used for medical services, the insurance policy would cover any further costs for that year. The difference between this plan and other plans with deductibles is that with an MSA, any money remaining in the deductible at the end of the year would be transferred into the individual's personal "medical IRA" and can accumulate for future medical expenses, including future needs for long-term care. Once a certain level of IRA savings has accumulated, the individual would be free to withdraw money above that level for non-medical expenses with the same type of limitations utilized in premature withdrawal of money from

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Table 1. The Uninsured in Oklahoma

	Population	Medicaid	Other Ins.	Uninsured
<b>Group A</b> Population under 65 below 100% poverty level in annual income	440,000	43%	20%	37% (162,800)
<b>Group B</b> Population under 65 with annual income between 100% and 199% of poverty level	579,000	5%	59%	36% (208,440)
<b>Group C</b> Population under 65 with annual income greater than 200% poverty level	1,660,000	0	89%	11% (182,600)
Pop under 65	2,679,000			21%
Total number of uninsured in Oklahoma				562,590

one's retirement IRA. This model provides the resources for "first dollar" care such as office visits for routine care while at the same time providing a built-in incentive to not overutilize medical services. As an example, if the deductible is \$2400 for a certain policy, \$200 per month would go into the medical savings account to cover "first dollar" expenses. The amount remaining in the savings account at the end of the year would be transferred into the IRA.

The state legislatures of Idaho and Arizona have passed bills which allow implementation of the medical savings account model, and the Oklahoma State Medical Association House of Delegates approved a resolution during the 1994 Annual Meeting which endorsed "the concepts such as medical savings accounts, medical IRAs, requiring individuals to have a minimum level of health insurance coverage, tax credits for health care expenses,... as well as the other common sense aspects of Senator Nickles' proposal, the 'Consumer Choice Health Security Act.' " So there is some precedent being established for utilizing market-based strategies for health care reform.

### The Uninsured

In order to understand the applicability of these concepts to the uninsured, it is necessary to analyze the different subgroups within the entire population of the uninsured in Oklahoma. According to the Commission on Oklahoma Health Care<sup>8</sup> and based on figures provided by the Urban Institute, the total number of uninsured in Oklahoma as of October 1992 was 562,590 (Table 1). Among those under the age of 65 with an annual income less than 100% poverty level (Group A), 37% (162,800) were uninsured. Among those under 65 with annual incomes between 100% and 199% poverty level (Group B), 36% (208,440) were uninsured. And among those under 65 with annual incomes greater than 200% of poverty level (Group C), 11% (182,600) were uninsured. Therefore, a total of approximately 391,040 (69%) of the 562,590 uninsured in Oklahoma have incomes which generally should allow them to be able to afford health insurance. It should be noted that in Group B, 59% already had non-Medicaid insurance, and in Group C, 89% already had non-Medicaid health insurance. Medical savings ac-

counts would simply provide a more affordable way to purchase health insurance for people in these groups, and would therefore improve access to health insurance for the uninsured in these two income brackets.

There is another subgroup of uninsured that is probably located within Groups B and C, and that is those who are uninsured because of pre-existing illnesses. Another market-based strategy for helping these people is the creation of a "risk pool fund." At the time of this writing it is anticipated that the Oklahoma Legislature will be considering a bill this session which would implement this in Oklahoma. There are approximately 30,000 Oklahomans who find themselves in this subgroup and this fund would have great potential to help them.

### Conclusion

Many issues will need to be addressed in the ongoing national debate on health care reform, and market-based strategies such as medical savings accounts, medical IRAs, and risk pool funds can have a significant impact in improving access to health care for the majority of the uninsured in Oklahoma. As physicians, we must support these concepts in order to bring about fiscally responsible and truly effective health care reform. If we fail to take advantage of this opportunity now, then the recent prediction of the architect

of the Great Society, Joseph Califano, may prove to be correct: "...There will come a point, several years from now, when eventually there will have to be some sort of federal government mandate on employers—the people with money—requiring them to pay for health coverage for those who don't have it."<sup>9</sup> In view of the failure of the policies of the Great Society, it seems prudent to go in a different direction for the future, and market-based strategies for health care reform are an integral part of that new direction. J

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As physicians, we must support these concepts in order to bring about fiscally responsible and truly effective health care reform.



# If the U.S. Senate Can Deliver Health Care Liability Reform, Maureen O'Regan Can Deliver Babies Anywhere.



Meet Dr. Maureen O'Regan.

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## Report of the OSMA President

*Presented by Jay A. Gregory, MD, to the Opening Session of the House of Delegates, April 7, 1995*

As I address you, my colleagues whom I hold so dear, for the last time as your President, I wish I could say that we as physicians have weathered the storm of change and that we are in the safe and calm harbor of peace and prosperity. But I cannot. I will say that we have weighed anchor and that our sails are unfurled, waiting to be filled with the winds of trust, mutual respect, unity and reasonable reform, all of which are essential to take us in the direction of our dreams. And if we don't reach our destination, we will have only ourselves to blame.

Change came this year in the threat of health system reform. Change came to the OSMA. And change came to how we as physicians react to change. Let's talk about health system reform first.

This truly has been a tumultuous year

our AMA—to fight the good fight and prevail. And we did!

What happened to the Clinton Health Care Plan and health care reform in general? Probably foremost was the fact that our best allies—our patients—let their elected leaders know that for the most part they liked the health care they received from the doctors of their choice. And they let it be known that they wanted no less quantity or quality of health care than that to which they were accustomed.

What about the Oklahoma Congressional Delegation? With the exception of the late and unlamented Congressman of the Second District, they stood solidly behind the house of medicine and the OSMA. My friends, this did not happen by accident. It was because your

OSMA and the Council on Federal Legislation, led by Dr. Richard Boatsman, has established a federal relations program that is the model for other state medical associations. I am not discrediting Senator Phil Gramm of Texas who is taking a lot of the credit for defeating the Clinton Plan,

but a better case could be made for our Senators Boren and Nickles in its demise. Your current Oklahoma Congressional Delegation, just like the last one, knows that the OSMA speaks for virtually all of the medical doctors in the state. While some of you may think the OSMA speaks softly on Capitol Hill, let me assure you, you are wrong; we carry a



big stick in Washington, and it is an even bigger stick now with the presence of our colleague, Dr. Tom Coburn of Muskogee, on the Delegation.

Let's examine the strategy of the AMA during the reform debate. Many physicians wanted all of organized medicine to overtly oppose the Clinton Plan. My own American College of Surgeons came out endorsing a single payer, the American College of Physicians endorsed the entire Clinton Plan, and the American Academy of Family Practice endorsed most of it.

The AMA—wisely, I think—neither endorsed nor opposed any specific plan. Rather, it outlined a set of principles—patient choice, physician autonomy, insurance and tort reform—that would have to be a part of any new health care

This has been a year of adaptation as the staff adjusted to me and other officers and board members who have been seeking to fine tune and tighten operations.

filled with fear, anxiety, and some anger. This time last year when we met at Shangri-La, there was a real sense of terror that the Armageddon, in the form of the Clinton Health Plan, was upon us. We had reason to be worried, but we had no reason to panic and we didn't. At least, most of us didn't, because we had the tools—our patients, our OSMA, and



## Dr. Gregory *(continued)*

delivery system. The AMA hammered away at those points until Senator George Mitchell declared health system reform dead last December. And at that point in time, the only group speaking with a unified voice for medicine was our AMA.

By the way, I was just as outraged as most of you were by the ill-advised formation of the unholy trinity of the AARP, the AFL-CIO, and the AMA. I was also very upset by the very early endorsement of Dr. Foster for Surgeon General by the AMA. I have also had a lot of trouble with the AMA's representation on the ACCGME which ruled "unanimously" to withhold funding from OB-GYN programs that did not teach abortion techniques to residents. These incidents have kept the phone lines hot between Muskogee and Chicago. And some of the individuals responsible for these incidents are now looking for work elsewhere. The only way you can change a system is from within.

So let's stop and smell the roses for just a moment. American medicine has scored a major victory. Last year we were talking socialized medicine. Today we are talking insurance reform and just a few weeks ago the U.S. House of Representatives passed a tort reform bill that included a cap on non-economic damages in medical malpractice cases. We accomplished this working together. Working with our patients at the grass-roots level—with the OSMA at the Congressional level—and the AMA at the National level.

Again, the death of Health System Reform did not happen by accident. So let's give ourselves and our professional organizations some credit and thanks for a job well done.

We have also had a successful year at the Oklahoma State Legislature thanks in large part to Dr. Ed Brandt and his Council on State Legislation and Regulation. The members of that council and its subcommittees deserve special praise because they have met essentially every two weeks during the

legislative session. If you haven't heard, the Nurse Prescribing Bill was killed in the Health Committee of the State House of Representatives. A lot of us gave input to our representatives on this issue. For all of you that gave time to talk with legislators, I say "thank you." Much of the legislative success has been due in part to our fund raising efforts lead by Dr. Larry Long of OMPAC and Dr. Lance Miller of IMPACT. Your involvement of time and money in the political process cannot be overstated. And do not forget the many hours that OSMA staff has put in out at the State Capitol. Your input to staff regarding issues has been very skillfully and successfully delivered to legislators by Mrs. Claudia Kamas, Mr. Lyle Kelsey and Mr. David Bickham.

Now let's turn to the OSMA. Our or-

An audit of special procedures was conducted and a Finance Committee appointed. ... My friends, the truth is, your OSMA is in good shape, has money in reserve, and is well run.

ganization is changing. It is changing because times and issues are changing. It is changing because the leadership is changing. As our former leaders retire or move on to other interests, they are obviously being replaced with physicians of another generation.

While I may not be a "Young Turk," I certainly have not reached the "Gray Panther" era either. Just as I prefer to see a little gray in an airline pilot's hair, experienced leadership is important to any organization, particularly during a time of transition.

As our organization is changing, it has and will represent a challenge for the OSMA staff. I will tell you unequivocally that the OSMA has one of the best staffs of any medical association in the nation. And the staff has been very stable. There is a tremendous amount of experience there, all totaled some 163 years. So this has been a year of adaptation as the staff adjusted to me and other officers and board members who have

been seeking to fine tune and tighten operations. As you know if you have read your Delegate's book, an audit of special procedures was conducted and a Finance Committee appointed. You have their recommendations before you, and I expect the House to vote to implement those recommendations, as has been recommended by the Board of Trustees.

My friends, the truth is, your OSMA is in good shape, has money in reserve, and is well run. For the last several months, I have been hearing rumors of "financial irregularities" at the OSMA. I assure you no one has their hand in the till. As past expenditures were approved either by whomever was secretary-treasurer and/or the OSMA Executive Committee at that time. I believe it is fine to disagree and have debate on how

things are done, but let's put to rest once and for all the innuendo that there are financial or other fundamental problems at our OSMA. Let's take a healthy dose of trust in our leadership and staff and have faith that honesty and integrity will prevail. Let me repeat, your OSMA is in good shape and I assure

you that staff has been and is working to implement those changes recommended by the officers and trustees.

Now let's talk about change and physicians. Five years ago if I had stood before you and said that I thought it was a good idea to put up 3 or 4 thousand dollars to start an HMO, you would have thought I was crazy. But maybe President Clinton and the nation's business leaders got our attention. While the President took the brunt of our wrath, it was, and is big business that is driving health system reform. Business wants to spend less—and control what it spends on health care for its employees. And even more insidious are the entrepreneurs who are trying to control you and me so that they can pay their CEOs up to 17 million in annual salary and benefits, while also paying big dividends to stockholders. Are you going to allow yourself to be controlled by some greedy pragmatist? Are you going to allow an individual to split our unity and trust in



## Report of the President-Elect

**Presented by Larry L. Long, MD, to the Closing Session of the House of Delegates, April 9, 1995**

These are interesting times in medicine. The challenges which face us as individuals, and us as an association are formidable indeed. Never before has our ability to control the way we practice

tered such concern, such frustration and, at times, such anger over the situation in which we find ourselves. Physicians have expressed great concern over the loss of patients to various managed care organizations, drastic reductions in reimbursement schedules, and our general inability to have a say in the process.

However, there is great hope. One of the greatest undertakings of this association in its history has been to sponsor, through the House of Delegates, the formations of the Oklahoma Physicians Network and PROklahoma Care. Our physician-owned and controlled HMO provides us the only opportunity to have a fair and equal partnership in the formulation of our future. This is the only organization



The office of president or any other office of this association is not about any one individual. The association is about a group of individuals....

medicine, how we maintain our relationship with our patients, and the ultimate decision-making process been so severely threatened. As I have traveled the state these last few months and having met with our membership, I have come to recognize that never have I encoun-

### **Dr. Gregory** *(continued)*

each other just so he can line his pockets with gold off our backs and from the bank accounts of our patients? The time is now, not to say *no*, but *hell no*. Five years ago we would have buried our heads in the sand, but not today. Now we are leading the change. Under the resolution passed by the House of Delegates at the 1994 Annual Meeting, the officers and board have worked to position you, the Oklahoma physicians, to deal with managed care. Those efforts reached a crescendo this year with the offering of PROklahoma Care stock. Now instead of reacting to the environment or saying yes to someone who does not have our best interests at heart, we have a mechanism which will help keep us in control of our own destiny. A few of you in this room, as well as many others, want this effort to fail. But as I stand before you here today, this project will be successful, and PROklahoma Care will be a force to be reckoned with in the managed care arena in Oklahoma, and the competition knows it. Some

of you in this room have very serious conflicts of interest between the OSMA, PROklahoma, and other entities. You must decide very soon which master you will serve. Will it be the master of greed, a multi-millionaire CEO—or will your master be your patients, who through PROklahoma Care will receive the highest quality care, at the right time, in the right place, in the right amount. You make the decision and I know what your answer will be if you are serious about the oath to which all of us swore on graduation day.

Those of you who have not purchased stock because you were waiting to see if the company would capitalize, I say to you, your wait is over; PROklahoma will become a reality. I urge you to visit the PROklahoma booth and seriously consider purchasing your stock in our future.

I could go on and list all of the things that an OSMA President does—like meetings, meetings and more meetings—but I won't.

Let me say that it has been a distinctly high point for me to serve you as your President. Let me leave you with a few

thoughts about our future. I am concerned about the hostility I see all around us, and the clashing of ideologies in our own organization. We must nip this in the bud. We have many valid and some potentially contentious issues before us at this meeting. So right now let's agree that it is okay to disagree. But let's also agree to conduct our debate in a civil, dignified fashion that befits our most revered profession. Let the process occur and when it is over, let's agree to accept the will of the majority. If we are dissatisfied with the results, let us pledge to continue to work within the system.

As I look out over this room, I see no enemies, only friends. I fully expect that to be the case at noon on Sunday. We have a good thing going here in Oklahoma, and it is getting better. It would be a shame to throw it all away over single issues or personalities. As physicians, we are healers, so let the healing process begin. Torn apart and fragmented into many pieces, as our foes would have us, we are impotent. United we cannot be conquered. The choice is ours and we will make it this weekend. The future depends on us.

## Change becomes theme for '95 Annual Meeting of House of Delegates

The specter of change has stalked the medical profession in recent years, causing confusion, doubt, and frustration. Last month it visited the OSMA's Annual Meeting.

And it did not go unnoticed.

Outgoing President Jay A. Gregory, MD, looked it squarely in the eye during the Opening Session and declared Oklahoma physicians ready and willing to deal with it. The majority of this year's resolutions addressed internal changes designed to strengthen the association and prepare it for the future. Fresh faces joined the ranks of leadership. Two new companies, PROklahoma Care and Oklahoma Physicians Network, moved

closer to the day when, fully operational, they can ensure Oklahoma doctors' freedom to practice as they see fit. And while sometimes agreeing to disagree, members reaffirmed the strength and unity of the association.

**Elections and Officers.**— This year, for the first time, delegates used voting machines to cast their ballots. The results were as follows:

Joining OSMA President Larry L. Long, MD, in leading the OSMA this year will be President-Elect David L. Harper, MD, Tulsa (one-year term); Vice-President David M. Selby, MD, Enid (one-year term); and incumbent Secretary-Treasurer Carol Blackwell Imes,

MD, Oklahoma City (two-year term). Mary Anne McCaffree, MD, Oklahoma City, and Boyd O. Whitlock, MD, Tulsa, continue in their positions as speaker and vice-speaker of the house, respectively.

Elected or re-elected as delegates to the Oklahoma AMA delegation were Drs. William O. Coleman and Gary F. Strebel, Oklahoma City; and Norman L. Dunitz and Boyd O. Whitlock, Tulsa. Alternate delegates are Drs. Sara R. DePersio and William H. Hall, Oklahoma City; W.F. Phelps, Tulsa; and J. Ross Vanhooser, Enid.

Serving three-year terms on the PLICO Board of Directors will be Drs. John

### Dr. Long (continued)

that guarantees our patients the freedom of access to the provider of his choice. It provides us the only opportunity to maintain the integrity of the relationship we now enjoy between us and the patients. I urge the participation of our members and the members of the Oklahoma Osteopathic Association in PROklahoma Care. It may provide us the only opportunity to do, in a very personal way, that which we enjoy and have been trained to do, and that is to provide care and comfort to those who need us.

Quoting William James who wrote, "The most immutable barrier in nature is between one man's thoughts and another's," I wrote an article for the Oklahoma County Medical Society *Bulletin* fourteen years ago entitled "Communication Is a Four-Letter Word." Our ability or inability to communicate one with the other remains a concern today. One area of concern which we are going to strive to improve in the coming year is the assimilation of important data and information from the leadership through the staff office to the membership as a whole. In my contacts with the membership in recent months, I have been repeatedly told by our members that

they did not get this or that piece of information. We are going to work as hard as we can in the upcoming year to properly and adequately assimilate the necessary information and make sure that it is promptly and in a timely way delivered to your office.

Communication, however, is a two-way street. I would urge each and every one of you to strongly encourage your office personnel that when they receive information, letters, booklets, pam-

Let us put aside our personal agendas and come together in the spirit of cooperation and mutual respect. The survival of our association and profession may depend on it.

phlets, or newsletters from the association, that they in some manner call your attention to this important information.

By improving our public relations procedures and our ability to communicate with our membership, we hope to avoid items of confusion and misunderstanding.

I wish to thank Maggie Hubner for an outstanding job in leading the alliance during this past year. The alliance has experienced and continues to experience an unprecedented growth and

flourish of organizational activity. It is through the strong leadership that Mrs. Hubner and her predecessors have provided that has ensured constant and steady growth of the alliance. I'm looking forward to working with Mrs. "K" Caldwell in her role as president of the alliance during this upcoming year.

In closing, the office of president or any other office of this association is not about any one individual. The association is about a group of individuals who have joined together over the past ninety years in a very successful way to provide an organization through which physicians can come together in a commonality that is unique to us all. It is the only state organization that we have. It is made up of constituent societies who are equal

in importance and stature one to the other. The good and will of the association is determined again, not by one individual or any small group of individuals, but by the vote of the majority, a fundamental basis to the democratic process. Reasonable dissent and debate are the cornerstone of a democracy. Let us put aside our personal agendas and come together in the spirit of cooperation and mutual respect. The survival of our association and profession may depend on it.



R. Alexander and Floyd E. Miller, Tulsa; Ed L. Calhoon, Beaver; William C. McCurdy, Norman; and Steven A. Mueller, Oklahoma City.

At the Board of Trustees meeting on Thursday, April 6, Chester L. Bynum, MD, Norman, and Robert J. Weedn, MD, Duncan, were named chair and vice-chair, respectively. Subsequently elected to join them on the board were, from District VI (Oklahoma County), trustees Norman Imes, Rebecca Tisdal, and Roland Walters, Oklahoma City, and alternate trustees Jon Axton and Don Carter, Oklahoma City, and Ray Cornelison, Midwest City. From District VII (Cleveland, Creek, Lincoln, Okfuskee, Pottawatomic, and McClain counties) are trustee Bynum, Norman, and alternate trustee David Holland, Shawnee. Representing District VIII (Tulsa County) will be trustees David J. Confer, C. Wallace Hooser, and W.F. Phelps and alternate trustees Michael B. Clendenin, William A. Geffen, and Kenneth A. Muckala. The trustee from District X (Haskell, Hughes, Latimer, LeFlore, Pittsburg, and Seminole counties) is

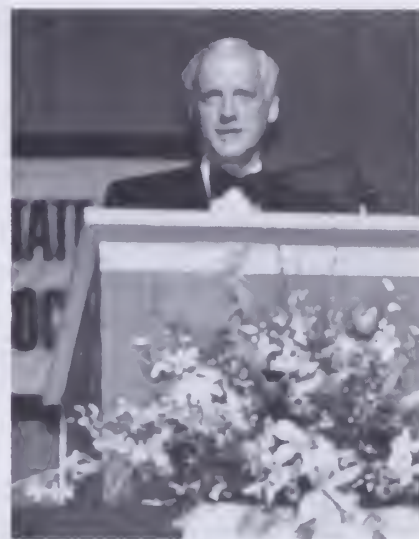
Michael Boyer, McAlester; his alternate is Richard B. Winters, Poteau.

The board also confirmed the reappointment of the following JOURNAL editors: Editor M. DeWayne Andrews, MD (three-year term), and Associate Editors Ruth H. Oneson, MD; David M. Selby, MD; Clifford G. Wlodaver, MD; and Ollie W. Dehart, MD (one-year terms).

**Life Members.**— Approved for Life Membership at the Thursday board meeting were applications from Loraine Schmidt, MD, Norman; F. David Kalbfleisch, MD, Lawton; Harvey Elkouri, MD, Chickasha; Leo E. Yates, MD, Mustang; Hartzell Schaff, MD, McAlester; Drs. Marie T. Lane Snow, Russell T. Schultz, Janelle A. Sloane, and James C. Beavers, Oklahoma City; and Drs. Curtis N. Clifton, Loyal L. Conrad, William Kiekhofer, Henry H. Modrak, and Edward J. Tomsovie, Tulsa.

**Awards and Prizes.**— A number of awards were presented this year in the course of the meeting. During the Opening Session Friday morning, the Wyeth Ayerst Community Service Award was presented to C.S. "Burr" Lewis, Jr., MD, Tulsa, and the Donald J. Blair Friend of Medicine Award to Jean Gummerson, Oklahoma City, president of the Presbyterian Health Foundation.

As previously announced, JOURNAL awards were also presented during the Opening Session. Brent R. Brown, MD, Oklahoma City, received the Charlotte S. Leebron Award for having published the most worthy scientific paper in 1994; it was a two-part paper entitled "Understanding Mechanical Ventilation: Indications for and Initiation of Therapy" (Aug.) and "Understanding Mechanical Ventilation: Patient Monitoring, Complications, and Weaning" (Sept.). James S. Gerber, MD, Okarche, received the award for best JOURNAL cover photo for his shot of a barn silhouetted against a sunset (Feb. 1994). Named recipient of the first Mark R. Johnson Excellence in Medical Writing Award was Tulsa senior medical student Gregory A. Millnamow, who was unable to attend the meeting. The Johnson award goes to the best scientific paper or commentary written by an Oklahoma medical



Oklahoma Governor Frank Keating was the guest speaker at Saturday night's inaugural gala at the National Cowboy Hall of Fame.

student or resident. Mr. Millnamow's winning paper, "The Neuroleptic Malignant Syndrome," will appear in the June 1995 JOURNAL. In addition, Editor-in-Chief Ray V. McIntyre, MD, surprised his supporting board of editors and reviewers with honorariums. Recipients were editors Robert L. Scott, MD, Tulsa; and M. DeWayne Andrews, MD, Oklahoma City; and associate editors Ruth H. Oneson, MD, and Clifford G. Wlodaver, MD, Oklahoma City; David M. Selby, MD, Enid; and Ollie W. Dehart, MD, Vinita.

Past President G. Lance Miller, MD, Tulsa, received a Presidential Citation from President Jay A. Gregory, MD, Muskogee, at Friday evening's inaugural gala.

In the exhibitor's drawing held during the Closing Session on Sunday morning, Patricio C. Avila, MD, Perry, won a trip for two, including air fare and four days and nights in the city of her choice in the contiguous 48 states, courtesy of Seagrave Travel.

**Golf Tournament.**— Saturday's golf tournament was at the Silverhorn Golf Club in Oklahoma City. Winning the four-person scramble were Scott Dunitz, MD; Lynn Frame, MD; Doan Harrison; and David Nierenberg. Each will receive a Silverhorn T-shirt, as will

## Election Results

Below are the election results in this year's contested races. Votes were allowed for as many as 4 candidates in the delegate races and five in the PLICO election.

### AMA Delegate

Gary Strebel, MD	178
Norman L. Dunitz, MD	146
Boyd O. Whitlock, MD	142
William O. Coleman, MD	135
Ed L. Calhoon, MD	131
Total	732

### AMA Alternate Delegate

Sara R. DePersio, MD	154
J. Ross Vanhooser, MD	131
W.F. Phelps, MD	125
William H. Hall, MD	98
Greg Ratliff, MD	85
Patrick Lester, MD	82
Howard A. Shaw, MD	47
Marcel Binstock, MD	40
Total	762

### PLICO Board of Directors

John R. Alexander, MD	159
Steve Mueller, MD	152
William McCurdy, MD	148
Floyd Miller, MD	139
Ed L. Calhoon, MD	133
Nick Knutson, MD	98
Richard B. Dawson, MD	71
Total	900



## 1995 reference committees and house labor long over 24 resolutions

Three very crowded reference committees at this year's Annual Meeting wrestled with 24 resolutions (all designated A-95). The disposition of those resolutions by the committees and the House of Delegates appears below.

Chairing the three committees were David J. Confer, MD; Michael L. Winzenread, MD; and Edward N. Brandt, MD, respectively.

### **Resolution: 1 — Unified Membership**

NOT ADOPTED

Introduced by: Oklahoma County Medical Society  
Vadakepat Ramgopal, MD, Chair,  
Delegation  
Referred to: Reference Committee 1

WHEREAS, Many physicians in the state prefer not to belong to the AMA; and

WHEREAS, Many physicians in the state wish to support county and state societies without belonging to the AMA; and

WHEREAS, Current policy gives the individual practitioner no choice but to pay the AMA dues if membership in county/state societies is desired; now therefore be it

*Resolved*, That the OSMA House of Delegates hereby repeal provisions in the Bylaws that require unified membership.

### **Resolution: 2 — Criteria For AMA Delegation Nominees**

NOT ADOPTED

Introduced by: Oklahoma County Medical Society  
Vadakepat Ramgopal, MD, Chair,  
Delegation  
Referred to: Reference Committee 1

WHEREAS, no restrictions other than age (25, 30 for the Congress and Senate respectively) and citizenship (7-9 years for the Congress and Senate) are placed on national government representatives; and

WHEREAS, The same, small group of people serve as AMA delegates year after year due to the rules of selection; and

WHEREAS, The delegation from this state could not include a young, practicing physician under the current rules; now therefore be it

*Resolved*, That the OSMA select its AMA delegates from the membership

at large with no more stringent rules than apply to our representatives in Washington.

### **Resolution: 3 — Term Limitation For AMA Delegates**

NOT ADOPTED  
(See Substitute Resolution: 3)

Introduced by: G. Keith Smith, MD  
Oklahoma County Medical Society  
Referred to: Reference Committee 1

WHEREAS, The same, small group of people serve as AMA delegates year after year; and

WHEREAS, Term limitation for national state government representatives has been identified as a method to secure a more representative, citizen legislature/government as intended by the founders; now therefore be it

*Resolved*, That the OSMA adopt term limits for AMA delegates, such that no physician may serve more than three consecutive terms, no physician may serve more than a total of four terms, and that current delegates be allowed to finish their current terms before this would take effect.

## **Meeting (continued)**

Eli Gregory for hitting the longest drive and Glen D. Hallum, MD, for getting closest to the pin.

**Presidents' Reception and Banquet.**— The Presidents' Inaugural this year was in the great hall at the National Cowboy Hall of Fame and Western Heritage Center. Surrounded by the vast and as-yet-unfinished triptychs of Wilson Hurd, guests could almost smell the sage in the air. Reception and dinner music was provided by the Putnam City Silver Strings and after-dinner entertainment by the University of Oklahoma College of Music. Governor Frank Keating was the featured speaker.

**Exhibitors and Sponsors.**— Ex-

hibitors at the Marriott during the three-day meeting were Administration Service Corporation; Advantage Data Systems; The Alliance Companies; American Home Health; American Transitional Hospitals, Inc.; Baylor Institute for Rehabilitation; Boatmen's First National Bank of Oklahoma; CIBA Pharmaceuticals; C.L. Frates and Company; Deaconess Hospital; Family Hospice; Guaranty Bank & Trust; Harrison Associates, Inc.; I.C. System, Inc.; Medical Arts Laboratory; MONYMED - Mutual of New York; National Network of Libraries of Medicine; Northeast Oklahoma Rehabilitation Hospital; Oklahoma Association for Home Care; Oklahoma Diagnostic Imaging (ODI); Oklahoma State & Education Employees

Group Insurance Board; Physician Manpower Training Commission; Professional Office Management, Inc.; PROklahoma Care, Inc.; Quality Life Styles, Inc.; Southern Medical Association; Southern Oklahoma NurseCor Inc.; Southwestern Bell Mobile Systems; The Specialty Hospital of Tulsa; Stillwater National Bank; and WPS, Inc.

Sponsors of the Inaugural reception Saturday evening were I.C. System, Inc.; Stillwater National Bank; C.L. Frates and Company; and Harrison Associates, Inc.

Hospitality cart for the golf tournament was provided by Verlan K. Raines of Administration Service Corporation.

—SFR

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**Substitute Resolution: 3  
(with title change) —  
Term Limitation For AMA  
Alternate Delegates**

ADOPTED

*Resolved*, That the OSMA adopt term limits for AMA Alternate Delegates, such that no physician may serve more than three consecutive terms, and that current Alternate Delegates be allowed to finish their current terms before this would take effect, and that the OSMA General Counsel be given the authority to draft the appropriate language to carry out the purpose of this proposed change, final approval of the specific language be left to the OSMA Board of Trustees and then submitted to the 1996 House of Delegates for final consideration.

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**Resolution: 4 —  
Who Shall Be Credentialed to  
Vote at the OSMA House of  
Delegates**

NOT ADOPTED

(See Substitute Resolution: 4)

Introduced by: Oklahoma County Medical Society  
Vadakepat Ramgopal, MD, Chair,  
Delegation  
Referred to: Reference Committee I

WHEREAS, The Oklahoma State Medical Association should be responsive to its membership; and

WHEREAS, Each year the various county and multi-county medical societies elect new delegate representatives to the OSMA House of Delegates; and

WHEREAS, Under current OSMA Bylaws, those permitted to vote at the OSMA House of Delegates include the county society delegates or alternate delegate, all past presidents of the OSMA, all general officers, all delegates and alternate delegates to the AMA, all trustees and alternate trustees, and the deans of the recognized medical schools in Oklahoma; and

WHEREAS, This plethora of voters dilutes the voting rights of the county medical societies; now therefore be it

*Resolved*, That the OSMA Bylaws be amended to provide that *only* county medical society certified delegates or their alternate delegates be credentialed to vote in the OSMA House of Delegates meetings.

**Substitute Resolution: 4**

ADOPTED

*Resolved*, That the OSMA Bylaws be amended to provide that Past-Presidents of the OSMA have full rights and privileges in the House of Delegates with the exception of the right to vote, and that the OSMA General Counsel be given the authority to draft the appropriate language to carry out the purpose of this proposed change, final approval of the specific language be left to the OSMA Board of Trustees, and then submitted to the 1996 House of Delegates for final consideration.

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**Resolution: 5 —  
Rotation of the Position of  
OSMA President-Elect by  
Geographic Areas**

NOT ADOPTED

Introduced by: Oklahoma County Medical Society  
Vadakepat Ramgopal, MD, Chair,  
Delegation  
Referred to: Reference Committee I

WHEREAS, For many years the OSMA Leadership has attempted to represent all areas of the Great State of Oklahoma; and

WHEREAS, For many years the OSMA has been *unofficially* rotating the President's position by geographic areas, *i.e.*, Oklahoma County, Tulsa County and Rural Counties; now therefore be it

*Resolved*, That the Office of the President-Elect of the Oklahoma State Medical Association be officially rotated and represented by elected persons from Oklahoma County, Tulsa County and the other rural counties; in that order; and be it further

*Resolved*, That at least two persons be nominated for President-Elect by the delegates of the above designated areas on a rotation basis.

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**Resolution: 6 —  
Implementation for  
Mechanism for State Boards to  
Meet Regularly for Planning  
and Budget Coordination**

ADOPTED

Introduced by: Robert Mahaffey, MD, Chair  
OSMA Council on Public and  
Mental Health  
Referred to: Reference Committee II

WHEREAS, The OSMA is interested in the physical, mental and social well being of the people of Oklahoma; and

WHEREAS, State, federal, and other funds for meeting these needs are limited and decreasing; and

WHEREAS, The State of Oklahoma has multiple boards and commissions concerned with various aspects of the public health, including but not limited to the Board of Health, Board of Mental Health, Commission on Human Services, Environmental Quality Board, and the Board of Corrections; and

WHEREAS, These entities must compete for available state and federal resources; now therefore be it

*Resolved*, That the OSMA request the Governor of the State of Oklahoma to implement a mechanism whereby the Boards of Health, Mental Health, Environmental Quality and Corrections, and the Commission on Human Services meet jointly on a regular basis to coordinate their planning and budgets in matters relating to the public health, thereby assuring the most efficient utilization of available resources.

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**Resolution: 7 —  
Childhood Lead Poisoning**

ADOPTED

Introduced by: Sara R. DePersio, MD  
OSMA Council on Public and  
Mental Health  
Referred to: Reference Committee II

WHEREAS, Childhood lead poisoning is one of the most common pediatric health problems in the U. S. today, and it is entirely preventable; and



## Resolutions *(continued)*

WHEREAS, Lead is a poison that virtually affects every system in the body and it is particularly harmful to the developing brain and nervous system of fetuses and young children; and

WHEREAS, Blood lead levels, greater or equal to 10 micrograms per deciliter, are associated with adverse effects on a child's development; and

WHEREAS, Reporting of elevated blood lead, greater or equal to 10 micrograms per deciliter, is required by the Oklahoma State Department of Health; and

WHEREAS, The effects of low-level lead exposure may not seem severe in the individual child, on a population basis they are extremely important; and

WHEREAS, After sufficient data collection, if communities find that their children are not affected by lead, the Oklahoma State Department of Health may choose to discontinue universal screening for lead exposure; and

WHEREAS, Primary prevention efforts (that is, elimination of lead hazards before children are poisoned) receive more emphasis as the blood lead levels of concern are lowered; now therefore be it

*Resolved*, That the Oklahoma State Medical Association encourages physicians and public health departments to regularly screen all children six months to seventy-two months of age for lead exposure through history-taking and by blood lead testing.

### **Resolution: 8 — Professional Liability and Punitive Damage**

#### ADOPTED

Introduced by: Mareel Binstock, MD  
Tulsa County Medical Society  
Referred to: Reference Committee II

WHEREAS, Medical malpractice cases are now conceived on increasingly spurious and frivolous grounds; and

WHEREAS, Plaintiffs regularly use the threat of ruinous punitive damages to induce defendants to forsake their right to pursue energetic defenses; and

WHEREAS, The anticipated legal cost of mounting a legitimate defense becomes *a priori* an element in the decision to prevail or to settle a nuisance litigation; and

WHEREAS, The increasing dependence of physicians on managed care providers whose primary objective is cost control entails a concomitant assumption of professional risks, the ultimate responsibility for which can hardly be in doubt; and

WHEREAS, Under prevailing statutes, defendants having settled or lost malpractice cases are, regardless of culpability, publicly defamed for the remainder of their professional life; now therefore be it

*Resolved*, That the President of the State Medical Association appoint an ad hoc committee to consider urgent measures to remedy these flagrant inequities in the legal system, which make a travesty of fundamental constitutional precepts.

### **Resolution: 9 — Educational Demands of a Highly Learned Profession**

#### ADOPTED

Introduced by: Tulsa County Medical Society  
Norman Dunitz, MD, Delegate  
Referred to: Reference Committee II

WHEREAS, The major goal of any medical organization must be dedicated to support of developing knowledgeable, intelligent and trained practitioners in healing care and services for the patients of the community; and

WHEREAS, This goal requires a constant source of highly skilled and educated young men and women who are capable of encompassing the wide and severe body of knowledge and training that is necessary to provide these medical functions; and

WHEREAS, Most of these individuals must be forthcoming from the educational system in our statewide community; and

WHEREAS, Students in our public schools have been and are being subjected to unproven methods of education, such as "outcome-based educa-

tion," which interferes with the historical competitive nature of education; now therefore be it

*Resolved*, That the medical profession continues to promote the highest levels of education attainable in this state and that such levels of educational skills cannot be attained without some discipline, intellectual competition, and directed educational methods; and be it further

*Resolved*, That the Oklahoma State Medical Association continues to lobby and influence the state legislature and the public as to the dangers inherent in lowering our education system by use of the programs such as the so-called "outcome-based education program" which would result in the learned professions no longer having the necessary pool of young individuals who can handle the intense educational program that is required in order to function as a physician.

### **Resolution: 10 — Osteopathic Physician Membership**

#### NOT ADOPTED

Introduced by: Tulsa County Medical Society  
David J. Confer, MD, Chair,  
Delegation  
Referred to: Reference Committee I

WHEREAS, During this time of dramatic change in the way medicine is practiced and how physicians are perceived, it is important that all physicians work together toward common goals and for the benefit of all physicians; and

WHEREAS, Osteopathic physicians are eligible for membership in the American Medical Association, and Board of Trustees Report 11, approved by the AMA House of Delegates at the 1993 Interim Meeting, calls on the AMA to encourage all state societies to accept Doctors of Osteopathy as members at every level of the federation; and

WHEREAS, The State of Oklahoma is one of only two states in the country in which osteopathic physicians are not eligible to belong to the medical association; and

WHEREAS, An increasing number of



osteopathic physicians are enrolled in residency programs at the University of Oklahoma and seventeen percent of those physicians currently enrolled in the residency program at the University of Oklahoma School of Medicine - Tulsa are osteopathic physicians; now therefore be it

*Resolved*, That the House of Delegates of the Oklahoma State Medical Association approve the appropriate changes in the OSMA Bylaws to approve membership privileges in the Association for osteopathic physicians.

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**Resolution: 11 —  
Mandatory Membership in  
the AMA**

NOT ADOPTED

Introduced by: Patrick D. Lester, MD  
Tulsa, Oklahoma  
Referred to: Reference Committee I

WHEREAS, Since 1950, all physician members of the Oklahoma State Medical Association have been required to maintain membership in the American Medical Association; and

WHEREAS, Over the years, several states have rejected mandatory membership in the AMA and only five states currently have such a requirements; and

WHEREAS, For many reasons, numerous physician members of the Oklahoma State Medical Association no longer desire to maintain membership in the American Medical Association, but do want to maintain membership and activity in the Oklahoma State Medical Association and their respective county medical societies; and

WHEREAS, Bylaw requirements of the Oklahoma State Medical Association mandating unified society membership violates the choice and conscience of many Oklahoma physicians; now therefore be it

*Resolved*, That the Oklahoma State Medical Association cease its requirement that physician members be mandatory members of the American Medical Association; and be it further

*Resolved*, That effective January 1, 1996, and until the Bylaws are changed to reflect the intent of this resolution, no physician shall be suspended or terminated from membership in the Oklahoma State Medical Association for failure to pay dues allocated for American Medical Association membership.

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**Resolution: 12 —  
Continuing Medical Education**

NOT ADOPTED  
(See Substitute Resolution 12)

Introduced by: Roger Sheldon, MD, Chair  
OSMA Continuing Medical  
Education Task Force  
Referred to: Reference Committee II

WHEREAS, Quality continuing medical education is considered by physicians and the public as admirable and essential activity which enhances life-long learning and provides evidence of continued competency; and

WHEREAS, Other professions require continuing medical requirements for recertification and relicensure; and

WHEREAS, Other state medical societies and medical specialty societies have CME requirements for recertification; and

WHEREAS, Elected representatives continue to make known their expectations that physicians continually update their knowledge and expertise as manifested by requirements proposed and enacted by state legislatures; and

WHEREAS, The people of the state of Oklahoma deserve no less than the people of other states; now therefore be it

*Resolved*, That the Oklahoma State Medical Association NOT require CME Category I hours as a condition for membership (or renewal of membership); and be it further

*Resolved*, That the Oklahoma State Medical Association House of Delegates recommends to the Oklahoma Board of Medical Licensure and Supervision that Category I hours be required for relicensure by the Board and that the Board work out the mechanisms for such a requirement; and be it further

*Resolved*, That the Oklahoma State Medical Association Continuing Medical Education Task Force recommends to the Board of Medical Licensure and Supervision that in requiring CME Category I hours for relicensure that the amount of hours be as follows: 150 hours every three years, with at least 60 hours being in Category I, or by satisfying the requirements of the AMA Physician Recognition Award (PRA).

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**Substitute Resolution: 12**  
ADOPTED

*Resolved*, The OSMA endorse the concept of continuing medical education; and be it further

*Resolved*, That the OSMA recommend and encourage all OSMA members to attain the AMA Physicians Recognition Award or its equivalent.

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**Resolution: 13 —  
OSMA Member Benefits**  
NOT ADOPTED

Introduced by: Perry A. Lambird, MD, Delegate  
Oklahoma City  
Referred to: Reference Committee I

WHEREAS, It has been stated that membership in the AMA perhaps should be an option for individual OSMA members because of the principle of free choice; and

WHEREAS, The OSMA will necessarily assume much greater costs in providing representation of and services to its members if unification with the AMA is lost; now therefore be it

*Resolved*, That the OSMA Bylaws be amended to provide that membership in the AMA is offered as a benefit of membership in the state medical association; and be it further

*Resolved*, That the dues of the Oklahoma State Medical Association shall be increased to an amount equal to present OSMA dues plus AMA dues (at a unified or non-unified level, as appropriate.)

## Resolutions *(continued)*

### **Resolution: 14 — Limitations of Those Who Serve as Officer and in Other Leadership Positions**

NOT ADOPTED

Introduced by: Oklahoma County Medical Society  
Vadakepat Ramgopal, MD, Chair,  
Delegation

Referred to: Reference Committee I

WHEREAS, The medical climate is rapidly changing because of political, insurance and managed care pressures; and

WHEREAS, OSMA leadership including the officers, AMA Delegates, AMA Alternate Delegates, Trustees, Alternate Trustees and PLICO Board members exert a great deal of power over the membership of the OSMA and must be cognizant of the pressures affecting the

practicing physicians of the State of Oklahoma; now therefore be it

*Resolved*, That the Bylaws and Constitution of the OSMA be amended to require that "only physicians actively involved in the practice of medicine may serve in the positions of: Officer, AMA Delegate, AMA Alternate Delegate, OSMA Trustee, OSMA Alternate Trustee and PLICO Board."

### **Resolution: 15 — Establishment of a Personnel/ Compensation Committee**

NOT ADOPTED

(See Substitute Resolution 15 & 16)

Introduced by: Oklahoma County Medical Society  
Vadakepat Ramgopal, MD, Chair,  
Delegation

Referred to: Reference Committee III

WHEREAS, The OSMA Board of Trustees has fiduciary responsibility to

the OSMA membership as well as many economic, administrative and political needs that change from year to year; now therefore be it

*Resolved*, That the OSMA establish a standing Personnel and Compensation Committee composed of five current Board of Trustees members to evaluate the needs of OSMA yearly and make recommendations.

### **Resolution: 16 — Establishment of an Audit Committee**

NOT ADOPTED

(See Substitute Resolution 15 & 16)

Introduced By: Oklahoma County Medical Society  
Vadakepat Ramgopal, MD, Chair,  
Delegation

Referred to: Reference Committee III

WHEREAS, The OSMA Board of Trustees has fiduciary responsibility to the OSMA membership, as well as many



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economic, administrative and political needs that change from year to year; now, therefore be it

*Resolved*, That the OSMA establish a standing Audit Committee consisting of five current Board of Trustees to evaluate the needs of OSMA yearly and make recommendations to the Board of Trustees.

**Substitute Resolution: 15 & 16  
Establishment of a Personnel/  
Compensation Committee**

ADOPTED

*Resolved*, That a three-member Appropriations and Audit Committee called for in the OSMA Bylaws be retained; and be it

*Resolved*, That a Finance, Personnel, and Compensation Committee be established as a permanent standing committee of the Board of Trustees and be composed of five members of the OSMA Board of Trustees, one of which is to be the Secretary/Treasurer of the Association; and be it further

*Resolved*, That the appropriate language to the OSMA Bylaws be drafted to effect these changes and that such drafted language be submitted to the 1996 House of Delegates for final approval.

**Resolution: 17 —  
Implementation of  
Audit Procedures**

NOT ADOPTED

(See Substitute Resolution: 17)

Introduced by: Oklahoma County Medical Society  
Vadakepat Ramgopal, MD, Chair,  
Delegation  
Referred to: Reference Committee III

WHEREAS, The OSMA is a nonprofit 501 c (6) corporation that has responsibility to the membership as represented by the House of Delegates; and

WHEREAS, The audit of Special Procedures, authorized by the Board of Trustees in April 1994, has been completed by a renowned company (Arthur Andersen) at considerable cost and re-

ceived by the OSMA Board of Trustees; now therefore be it

*Resolved*, That the audit of Special Procedures conducted by Arthur Andersen in 1994 be accepted and that the recommendations be implemented by OSMA to allow the OSMA to come into compliance with the IRS guidelines and policies.

**Substitute Resolution: 17**

ADOPTED

*Resolved*, That the OSMA should take any action required to bring it into compliance with IRS guidelines and policies.

**Resolution: 18 —  
Reimbursement of Money  
Owed by OSMA  
Officers/Members**

NOT ADOPTED

(See Substitute Resolution: 18)

Introduced by: Oklahoma County Medical Society  
Vadakepat Ramgopal, MD, Chair,  
Delegation  
Referred to: Reference Committee III

WHEREAS, The OSMA is a 501 c (6) nonprofit corporation and cannot allow private inurement or benefit to an individual officer or member; and

WHEREAS, Grant Thornton, present auditor, issued a formal written opinion to OSMA regarding loans and the requirement of immediate monthly payments with a plan of payments with an interest rate of one over the prime, as well as [sic] a signed formal note stating such, whereas any officer owing money to OSMA would have conflict of interest regarding financial matters that he/she would be asked to vote upon; now therefore be it

*Resolved*, That any officer/member owing money to OSMA pay it back immediately in full or at a minimum according to loan guidelines in the formal opinion by Grant Thornton provided to OSMA in April, 1994; and be it further

*Resolved*, That any officer/member who owes money to OSMA be disallowed from [sic] voting on financial matters.

**Substitute Resolution: 18**

ADOPTED

*Resolved*, That any member who has received a loan of money from the OSMA, because of the possible conflict of interest such loan might create, should be disallowed from voting on any OSMA financial matters until such time as the loan is fully repaid.

**Resolution: 19 —  
Rotation of Audit Firms**

NOT ADOPTED

(See Substitute Resolution: 19)

Introduced by: Oklahoma County Medical Society  
Vadakepat Ramgopal, MD, Chair,  
Delegation  
Referred to: Reference Committee III

WHEREAS, Many large, multi-million dollar corporations change auditing firms every few years for purposes of their annual audit; now therefore be it

*Resolved*, That the OSMA change its auditing firm every three years to a different firm from one of the Big Six auditing firms and budget for the cost of an annual audit.

**Substitute Resolution: 19**

ADOPTED

*Resolved*, That the OSMA change its audit firm every three to five years to a different nationally recognized firm, using a competitive bid selection process and, further, that the Association budget for such annual audits.

**Resolution: 20 —  
Treatment of Fellow Physicians**

ADOPTED

Introduced by: Oklahoma County Medical Society  
Vadakepat Ramgopal, MD, Chair,  
Delegation  
Referred to: Reference Committee III

WHEREAS, To maintain good will and harmony among physicians who are



## Resolutions *(continued)*

striving to represent their constituents in a fair manner; now therefore be it

*Resolved*, That individuals respect their fellow physicians' opinions and allow freedom to express such opinions without bias or intimidation.

### **Resolution: 21 — Open Meetings**

NOT ADOPTED

(See Substitute Resolution: 21)

Introduced by: Oklahoma County Medical Society  
Vadakepat Ramgopal, MD, Chair,  
Delegation  
Referred to: Reference Committee I

WHEREAS, The OSMA exists for the purpose of serving the membership physicians who are the sole owners and beneficiaries of the OSMA; and

WHEREAS, At this time some committee meetings of the OSMA, especially the Executive Committee, meets secretly with secret memoranda which are not available to the Board of Trustees, Delegates or Membership; now therefore be it

*Resolved*, That the Constitution and Bylaws be amended to state that any member or elected delegate has the right to attend any committee or meeting of the OSMA, including the Executive Committee or Board of Trustees; and be it further

*Resolved*, That the books of the OSMA should be open to the membership and/or duly elected delegates with proper notification; and that no document in the OSMA shall be considered "secret" to members or duly elected delegates.

### **Substitute Resolution: 21**

ADOPTED

*Resolved*, That all meetings of the OSMA are open to any member of the Association except Executive Session for the purposes of discussing personnel or legal issues, and that the OSMA General Counsel be given the authority to draft appropriate language to carry

out the purpose of this proposed change. final approval of the specific language be left to the OSMA Board of Trustees, and then submitted to the 1996 House of Delegates for final consideration.

### **Resolution: 22 — PLICO Audit**

NOT ADOPTED

(See Substitute Resolution: 22)

Introduced by: Oklahoma County Medical Society  
Vadakepat Ramgopal, MD, Chair,  
Delegation  
Referred to: Reference Committee III

WHEREAS, PLICO is a wholly owned subsidiary of the OSMA; and

WHEREAS, PLICO is a multimillion dollar company and has required significant subsidies as assessment from the membership of the OSMA over the years; and

WHEREAS, The same accounting firm which performs the regular accounting performs the yearly audit, which is only an audit to show there is no material misstatement and not for special procedures; and

WHEREAS, The PLICO Board is in supervision over PLICO and is paid by PLICO for that function, but no non-paid elected officer of the OSMA is permitted to oversee PLICO books, policies or procedures; now therefore be it

*Resolved*, That an outside audit of the special procedures by a reputable outside firm be performed on PLICO (including PLICO Health and PLICO Malpractice) and the final unedited audit be presented in full to the OSMA House of Delegates at the annual meeting in 1996.

### **Substitute Resolution: 22**

ADOPTED

*Resolved*, That the PLICO Board of Directors be encouraged to study the possible need for a special audit to be conducted by a nationally recognized firm.

### **Resolution: 23 — Trauma Mortality Study**

ADOPTED

Introduced by: Stephen Cagle, MD  
Oklahoma County Medical Society  
Referred to: Reference Committee II

WHEREAS, The Section of Emergency Medicine at the University of Oklahoma Health Sciences Center is proposing to conduct a Trauma Mortality Study (TM Study) of the Oklahoma City statistical metropolitan area; and

WHEREAS, The good of the TM Study is to characterize all trauma related deaths occurring during 1994 utilizing nationally standardized trauma scores such as the Revised Trauma Scores (RTS), Injury Severity Scores (ISS), and Trauma Related Injury Severity Scores (TRISS); and

WHEREAS, The TM Study will lead to comparison of the Oklahoma City area with other national trauma standards and other similar geographical demographics, especially those regions with an existing Level I Trauma Center; and

WHEREAS, The data collection of the TM Study will coordinate with other trauma studies within the state, *i.e.*, the Tulsa EMS Study to promote injury control and management within Oklahoma, and would help in developing a trauma registry; now therefore be it

*Resolved*, That the Oklahoma State Medical Association support and promote the Trauma Mortality Study; and be it further

*Resolved*, That the Oklahoma State Medical Association support and promote the development of a regional trauma center system.

### **Late Resolution: 24 — Home Health Study**

NOT ADOPTED (See Substitute Late Resolution: 24)

Introduced by: John Adair, MD, Ardmore, and  
Ed Calhoon, MD, Beaver  
Referred to: Reference Committee II



**Annual Meeting  
April 7-9, 1995**

**Oklahoma City  
Marriott Hotel**

## Resolutions *(continued)*

WHEREAS, The medical profession has developed an increasing concern over the delivery of Home Health Care Services; and

WHEREAS, The authorizing physician assumes liability for the written treatment plan and nursing services rendered during Home Health Visits; and

WHEREAS, The authorizing physician has very little control over the development of the treatment plan or health services rendered by other health care providers; and

WHEREAS, There appears to be a growing mistrust between physicians and Home Health Care agency nurses; now therefore be it

*Resolved*, That the Oklahoma State

Medical Association request the assistance of the Oklahoma State Health Department in conducting peer review retrospectively of written orders and treatment plans between Home Health Care agencies and physicians to ascertain that professional oversight and control of Home Health Care services are being appropriately exercised and conducted.

### ***Substitute Late Resolution: 24*** **ADOPTED**

*Resolved*, That the OSMA Council on Public and Mental Health establish a liaison with the Oklahoma Association for Home Care and the Oklahoma Department of Health to study the issue of home health care in the state of Oklahoma and report back to the OSMA House of Delegates in 1996. J







**Annual Meeting  
April 7-9, 1995**

**Oklahoma City  
Marriott Hotel**



## Is SIDS related to immunizations? And if so, how?

Between the ages of one week and twelve full months, SIDS accounts for approximately one-third of all infant deaths. About 48,000 children are born in Oklahoma each year, resulting in slightly less than 100 expected SIDS deaths (or a rate of approximately 2 deaths per 1000 live births). In 1992, 47,544 children were born in the Sooner state, and 84 SIDS deaths were reported. Approximately 75% of SIDS deaths occur in the first 4 months of life.



The cause of SIDS is not yet well understood, although multiple contributing factors may be responsible. Unfortunately, after the death of a infant, the family occasionally will blame recent immunizations. Statistics can be used both to show that SIDS deaths occur after immunizations and to show that immunizations may actually lower the risk of SIDS.

If, (for example) each of 1992's 47,544 children lived 52 weeks in their first year of life, then a total of 2,472,288 children-weeks occur in the first year of life in Oklahoman children.

Eighty-four percent of Oklahoman children get their 2-month shots (39,937 children are vaccinated at 2 months), and 73% get their 4-month shots (34,707 children), and 57% get their 6-month shots (27,100 children). Since each of these children experiences one post-vaccination week after each shot, a total of 101,744 children-weeks (39,937 + 34,707 + 27,100) were post-vaccination weeks.

This means that of the 2,472,288 total children-weeks in Oklahoman infants in the first year of their lives, 101,744 or 4% are spent one week post-vaccination. Thus one would expect *by chance alone* that 4% of SIDS deaths would occur within one week of an immunization. Of the 84 SIDS deaths that occurred in 1992, 3.4 (i.e., 4% of 84) should have occurred within a week of an immunization by chance alone, if immunizations had nothing to do with SIDS. Yet in 1992, only one reported SIDS death occurred within a week of vaccination, which is less than one would expect to occur by chance alone, suggesting that immunizations are *protective* against SIDS.

We do not expect the above statistics to offer parents comfort after their child has died, but hopefully, they will help everyone to understand that immunizations do not cause SIDS, and that they may in fact reduce the risk of SIDS for our children.

□

## LETTERS

### Expert witness wasn't

*To the Editor:* I am writing you regarding your editorial ["Tides Always Turn"] in the March 1995 issue of the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION. Clearly, I am in support of tort reform in the state of Oklahoma, as well as nationally.

The problem which I recently encountered specifically addresses the issue of an "affidavit of malpractice" being obtained before filing of a malpractice suit. I was recently involved in a malpractice issue in which I was the defendant, and, in fact, the suit was filed and costs were generated prior to any expert witness being obtained by the prosecuting attorney. I must tell you, however, that the "expert" who presented to the court for direct testimony against me was a surgical scrub technologist with no, I repeat no, formal training in medicine generally, nor in orthopaedic surgery specifically. I was, as you might imagine, appalled when the judge in this particular case ruled that this gentleman's testimony could stand.

Despite the fact that the defense and defendant ultimately prevailed, the loss of time, the waste of resources, and the personal distress caused by this action appears reprehensible.

I address this issue to you inasmuch as you, with your knowledge and interest, may be able to direct me and our colleagues to some level where this problem may not happen again.

I always enjoy reading your editorials, which are not only always insightful, but are filled with a good deal of common sense.

—G. David Casper, M.D.  
Oklahoma City

### Interferon for hepatitis?

*To the Editor:* I have recently read the scientific articles in the March issue (JOURNAL, Vol. 88, No. 3). I was somewhat concerned about one of them, having first-hand knowledge of the subject matter. I would like to share my concerns with you.

With regard to the article titled "The Use of Interferon for the Treatment of Viral Hepatitis in Pediatric Liver Trans-

plant Patients" I have the following comments:

1. This study has no controls, in the literature, historical, or randomized. Its far-reaching conclusions with regard to the efficacy and safety of interferon are therefore totally without merit.

2. Treating patients without proof of viral hepatitis solely on the basis of histology and liver function tests is in my opinion unethical and dangerous. There is still much to be learned about post-transplant histopathology, and rejection can occasionally present with a hepatic picture. Indeed, the high rate of retransplantation in this group (30%) suggests either the inefficacy of interferon or misdiagnosis and the role of interferon in promoting rejection (chronic or acute) in the graft. The need to switch 25% of the patients to tacrolimus for rescue from acute rejection suggests the same.

3. Obviously there were no informed consents from these patients who had so-called non-A non-B non-C hepatitis. Use of potent and expensive drugs, e.g., interferon, outside their approved indications and with graft loss as a poten-

(continued)

## Letters (continued)

tial side effect merits informed consents and IRB approval.

4. At least one patient, a combined heart-liver transplant patient, with viral hepatitis, who was treated with interferon and died from rejection was conspicuously excluded from this study.

In summary, this appears to be an article which raises serious concerns with regard to the authenticity of the results, the ethics of its design, and the merits of its conclusions.

—Hadar J. Merhav MD  
Oklahoma City

## Authors reply to critic

*To the Editor:* We have read the letter of Dr. Hadar Merhav addressed to you concerning our manuscript entitled: "The Use of Interferon for the Treatment of Viral Hepatitis in Pediatric Liver Transplant Patients." We have the following responses:

1. In our report we note... "Interferon can be used in pediatric liver allograft recipients to treat viral hepatitis. Its use in such cases is associated with recognized side effects, some of which have not been reported in adults. Most of these untoward effects of IFN respond to a reduction in dosage or can be prevented with the addition of another drug (usually a marrow proliferative factor) to counteract the myelotoxic effects of the IFN."

Despite Dr. Merhav's objections, we believe these conclusions are sound and responsible. It should be noted that our report was the first in the world literature concerning the use of IFN in pediatric liver allograft recipients. As such, we believe it is an important contribution. It was not as Dr. Merhav suggested, a research study but a report of a unique clinical experience. We would encourage others, including Dr. Merhav, to perform a study with controls to confirm or refute our preliminary experience.

2. The second allegation of Dr. Merhav that we treated patients without proof of viral hepatitis solely on the basis of histology and liver function tests

is in his opinion unethical and dangerous we find absurd. Possibly, Dr. Merhav has a method of diagnosis other than the current gold standards of liver histology and abnormal aminotransferase levels. Of the 12 patients in our report, 8 also had serologic markers of either hepatitis B or hepatitis C. The 4 without specific hepatitis markers were termed NANBNC hepatitis, and each had the gold standard requirements for a diagnosis of hepatitis which are a histology demonstrating a patchy, panlobular hepatocyte necrosis characterized by acidophilic necrosis, Kupffer cell hyperplasia, and a mononuclear cell infiltrate lacking any histologic or clinical evidence for allograft rejection or biliary tract injury and abnormal transaminase levels.

The alleged high rate of retransplantation (30%) is what one would expect for individuals transplanted for viral hepatitis where the disease recurs in nearly 100% of cases. Moreover, despite Dr. Merhav's claim of first hand knowledge, it should be noted that 2 of the 4 patients who were retransplanted had the Interferon started only after a decision to retransplant was made and was accomplished in an effort to prevent infection of the second graft. Similarly, his claim that 25% of the patients had their immunosuppression changed as a result of the use of IFN is totally false. None of the patients described had their immunosuppression switched after starting IFN. All of the immunosuppressive changes were made prior to the use of IFN.

3. As for the charge that informed consent was not obtained, again, we find this charge ludicrous as well as heinous. These children are the most clearly watched and cared for children in hospitals. Their families are omnipresent and are actively involved in their care. Clearly, the children did not consent but the parents all did. It should be pointed out further that the median age of the children reported was 3.7 years, well below the age of reason. It should be noted that 2 of the authors (A. Tzakis and B. Nour) were the surgeons who directed and managed all these patients in Children's Hospital of Pittsburgh, and

Dr. Merhav's first-hand knowledge consisted of working at the VA Hospital in Oakland, PA and the adult medical surgical hospital (Presbyterian Hospital), not at Children's Hospital.

In addition, IFN is approved for use in the United States for the treatment of hepatitis B and hepatitis C and has been so since 1989 and 1990 respectively, well before the use of IFN in our patients

4. Finally, the accusation that "one patient, a combined heart/liver transplant patient with viral hepatitis who was treated with Interferon and died from rejection, was conspicuously excluded from the study" refers to Stormy Jones, the first heart/liver transplant performed by Dr. Starzl for familial hypercholesterolemia. She was excluded because she did not meet the entry criteria. Specifically, she was started on IFN before the reported start date of our report, had a complex and complicated course with viral hepatitis and cardiac but not hepatic allograft rejection and, finally, she did not receive sufficient IFN amounts or duration of IFN to be included in our report.

It should be obvious by now that Dr. Merhav's opinions are not bound by fact or logic. Thus, we thought it important to respond to his charges in an open forum.

—Bakr Nour, MD  
Oklahoma Transplantation Institute  
—David H. Van Thiel, MD  
Chief  
Liver and Digestive Diseases Division  
Oklahoma Transplantation Institute

*Note: Part of the JOURNAL's mission, as stated annually in its report to the OSMA Board of Trustees and House of Delegates, is "To serve as an open forum for the exploration and discussion of issues vital to the physicians of Oklahoma." Readers are encouraged to express their opinions in this column. Letters should be addressed To the Editor, The JOURNAL, Oklahoma State Medical Association, 601 Northwest Expressway, Oklahoma City, OK 73118.*



## DEATHS

### William Gerald Rogers, MD 1907 - 1995

W. Gerald Rogers, MD, a native of Fulton, Mo., died March 21, 1995, in Oklahoma City. Dr. Rogers, a 1930 graduate of

the University of Oklahoma School of Medicine, completed a residency and fellowship in Chicago before returning to Oklahoma City to establish a private practice in obstetrics and gynecology. He served in the Pacific during World War II as a lieutenant commander with the U.S. Navy. After the war he spent some 40 years teaching at his alma mater, where he was a clinical professor and vice-chairman of the ob-gyn department and finally, professor emeritus. It is estimated that he delivered some 11,000 babies during his 48-year career.

## IN MEMORIAM

### 1994

Fannie Lou Leney Hayward, MD .....	January 2
Kirk Thornton Mosley, MD .....	January 3
Richard Charles Wade, MD .....	January 6
Austin Walsh Webb Haddox, MD .....	January 13
Earl Mathews Woodson, MD .....	February 20
Tom Lamar Johnson, MD .....	March 5
Orville Main Rippey, MD .....	March 11
Minor Elliott Gordon, MD .....	March 14
George Loren Norris, MD .....	March 27
Max A. Glaze, MD .....	April 29
Winfred Aaron Showman, MD .....	May 14
Mark Daniel Holcomb, MD .....	June 1
Carter William Mathews, MD .....	June 3
Frank Wilson Clark, MD .....	June 6
Harold Ray Sanders, MD .....	June 15
Robert Bruce Howard, MD .....	June 16
Richard Warren Loy, MD .....	July 7
John Hobson Veazey, MD .....	July 11
Wesley A. Whittlesey, MD .....	July 12
Lawrence Sevier McAlister, MD .....	July 19
Jon Meyer Chenette, MD .....	August 4
Beryl Drew Henwood, MD .....	August 14
Jess Duval Herrmann, MD .....	August 16
John Xavier Blender, MD .....	October 5
John Patrick Skelly, MD .....	November 6
Jose J. Guijarro, MD .....	November 11
Haven Winslow Mankin, MD .....	November 14
Dalton Blue McInnis, MD .....	November 26

### 1995

Robert M. Wienecke, MD .....	January 3
Mason Russell Lyons, MD .....	January 6
Wallace Byrd, MD .....	January 25
Herbert Victor Lewis Sapper, MD .....	January 26
Addison Bowling Smith, MD .....	January 31
Clifford Jennings Blair, MD .....	February 10
John Richard Danstrom, MD .....	March 5
Othal Blair Cunyningham, MD .....	March 14
George S. Bozalis, MD .....	March 21
William Gerald Rogers, MD .....	March 21
Charles Wesley Letcher, MD .....	March 26
John Frederick Bolene, MD .....	March 27

### John Frederick Bolene, MD 1929 - 1995

John F. Bolene, a 1955 graduate of the University of Oklahoma School of Medicine, died March 27, 1995, in his Stillwater home. Born in Enid, the Oklahoma native served an internship in Wichita and a pediatric residency in Atlanta, Ga. From 1957 to 1960 he was with the U.S. Army in Germany and afterwards, from 1960 to 1963, he completed a radiology residency at Oklahoma University Hospital. He began his radiology practice in Tulsa, later moving to Stillwater to combine his practice with his brother's. There Dr. Bolene helped design and equip the radiology department at Stillwater Medical Center.

### Charles Wesley Letcher, MD 1903 - 1995

Miami physician Charles W. Letcher, MD, died at his home in Miami, Okla., March 26, 1995, following a long illness. Born in Nanticoke, Pa., Dr. Letcher was graduated from Yale University in 1926, Jefferson Medical School in 1930, and the Naval School of Medicine in 1939. At Jefferson he received special training in psychiatry and anesthesiology. In 1930 he began practicing in Wilkes-Barre, Pa. He moved to Miami in 1946 after serving with the U.S. Navy in the Pacific, where he earned three decorations for extraordinary bravery, including two Silver Stars. He retired in 1981.

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Carol Gay, P.A.-C

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John R. Gearhart, M.D.

## ANESTHESIOLOGY

222-9520  
Gideon Lau, M.D.  
M.M. Vaidya, M.D.

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222-9560  
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D.F. Haslam, M.D.

## UROLOGY

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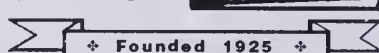
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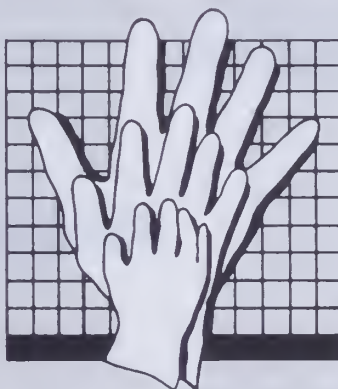
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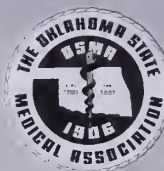
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## Getting to Zero

One of the most exciting parts of being president-elect of the OSMA Alliance this past year has been the visits Maggie Hubner and I made to the counties. During one county visit I heard a young woman in her middle twenties speak at one of their monthly meetings. This young woman related her early youth experiences—an alcoholic at age 11, a prostitute at 13, the loss of three “crack” baby boys, and the teenage mother of three daughters. A mother, brother, and uncle had died of alcoholism and a brother was in prison from drug-related crimes.

One morning she awoke, packed hers and her children’s belongings in a cardboard box, and, with her daughters, headed for a town with a shelter that a friend recommended. It promised help and hope. This bright, articulate woman said her first rude awakening was that the world was not better when she was off drugs and alcohol because then the truth of how low she had sunk became reality; her new goal became, “Just let me make it to zero.” Her recovery of her self-esteem is a success story and she is now a contributing member to her family and community and off drugs.

The Center on Addiction and Substance Abuse at Columbia University recently released some frightening

statistics: Alcohol and drugs are implicated in three-fourths of all murders, rapes, child molestations, and deaths of babies and children; most of the battering of four million women involves drugs and alcohol; at least one in every five dollars Medicaid spends on inpatient care and one in every five Medicaid hospital days are due to substance abuse; twenty-eight percent of AIDS cases are due to injectable drug use; smoking kills 3 million people each year.

I am going to become a grandmother for the first time this summer and maybe it changes the way you look at the world. My theme for the coming year is WORKING TO MAKE THE WORLD WORTHY OF ITS CHILDREN. Like Mrs. Reagan speaking before Congress, I have to ask, “Why is it we no longer hear the drumbeat of condemnation against drugs coming from our leaders and our culture?” Two-thirds of our nation’s problems could be resolved if we could curtail drug and alcohol abuse. I don’t have the answer on how to do it, but, perhaps we need a new goal—“Just let me make it to zero.”

—“K” Caldwell  
OSMA Alliance President



■ **Nancy Dickey, MD**, a family physician from Richardson, Tex., and a member of the AMA Board of Trustees, represented the AMA at the OSMA Annual Meeting. Dr. Dickey was well received at three separate events. She reminded Oklahoma physicians that the AMA "sets standards in education, ethics, science, and public health. We need to be united with these ideas. People need to hear one voice.... We need to have one set of standards, one organization, and one opportunity for voice and unity. I continue to believe we are the only voice our patients have. It is our attention to their concerns that makes us a good spokesperson in Washington and in Oklahoma."

■ **Louise Martin**, OSMA secretary and editorial assistant for the JOURNAL for more than 25 years, died at Presbyterian Hospital in Oklahoma City April 18, 1995, after a brief hospitalization. Mrs. Martin retired from the OSMA staff in 1983 but remained a frequent visitor in the years that followed. Memorials may be directed to the Music Fund of the Greystone Presbyterian Church in Oklahoma City or the Oklahoma Medical Research Foundation.

■ **Dr. Perry A. Lambird**, Oklahoma City, has received a vote of confidence from 27 Oklahoma physicians who donated a total of \$2,200 to his campaign for vice-speaker of the AMA House of Delegates. The election will be next month at the AMA meeting in Chicago.

■ **The Oklahoma State Department of Health** granted PROklahoma Care its organizational license as an HMO in the first week of April. PROklahoma Care will receive its operational license when funding is completed and the hospital network is in place.

■ **The Oklahoma Workers Compensation Court** is now accepting applications from licensed physicians interested in serving as independent medical examiners (IMES) under the IME system to be implemented by the court. The IME system was mandated by the Oklahoma Legislature to replace the current court-appointed third physician procedure by July 1, 1995. Under the IME system, an IME may provide treatment in workers compensation cases and/or give an opinion to the court on medical questions such as the existence, nature, and extent of permanent impairment; reasonableness and necessity of medical treatment; the causal relationship, if any, of the employee's medical condition to the employee's employment; and whether the employee has reached maximum medical improvement. IMEs also may be requested to give an opinion to the court in claims against the Special Indemnity Fund, a statutorily created fund, concerning the existence of any material increase in permanent impairment caused by the combination of disabilities.

Application requests should be in writing and directed to the Workers Compensation Court, 1915 North Stiles Avenue, Oklahoma City, OK 73105-4904, Attention: Patricia Somner, Director, Medical Services Division.

■ **The April issue of *The Internist: Health Policy in Practice***, the magazine of the American Society of Internal Medicine (ASIM), focuses on the use of board certification as the sole measurement of a physician's competence. "The public accepts certification as a reliable measure of quality, but both physicians and health plans are asking, 'Is this really a valid measure?'" writes Lee N. Newcomer, MD, vice president of health service operations and medical director of United HealthCare Corporation. Newcomer's answer is maybe. He cites a study which shows no significant difference between certified and noncertified internists in the care of patients, and offers advice to the latter on how to cope with the quandary of employers evaluating health plans based on their percentage of board certified physicians. ASIM Trustee Robert D. McCartney, MD, provides a brief history of certification and says, "It fails as a sole determinant of physician selection to any mode of practice." He writes that while board certification is a worthy measure of achievement, other factors—such as patient satisfaction, a physician's ethical nature and clinical judgment—need to be considered in the physician selection process.

Harry R. Kimball, MD, current president of the American Board of Internal Medicine (ABIM), and John A. Benson Jr., MD, president-emeritus of ABIM, discuss its present position on board certification. Benson attributes recent increases in the number of diplomates to a variety of factors, including that "Certified physicians [are] gaining certain career benefits from the board certificate." Kimball writes, "The board's mission through certification is to set, maintain, and continuously improve high standards for the profession for patients' benefits." But he points out, "The ABIM has long disavowed the use of its certificates as a sole criterion for granting clinical privileges."

■ **The American Medical Association** has commissioned a study to determine what motivates physicians to join organized medicine. The Tecker Research Group, conducting the study, notes the following items: (1) A strong voice for the profession (acting as the profession's manager of media relations), since most physicians track the progress of AMA through the general media. Physicians want AMA to portray that "physicians are the good guys" in today's fiscal health care crisis. They would like AMA to be positioned as the powerful voice of patient care, where physicians act as patient advocates. (2) A voice that represents the profession's common ground/common interests. The most common interest is providing quality care for patients and educating the public that they will not be happy with the quality of care if it is defined by the cost issues of insurance companies or politics of the federal government. (3) A united agenda for the profession that ties specialties together. This includes promoting a positive image of physicians to the public, holding the line on the definition of what is good health care, and not taking positions that clearly divide the profession based on demands from small vocal and well-connected voices.





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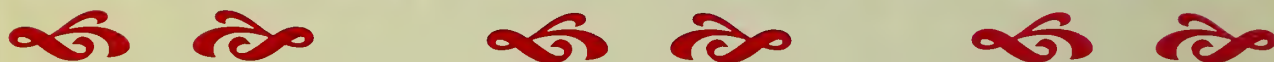
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# JOURNAL

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## On the "Right to Choose"

The rights that humans possess by virtue of having been conceived are rediscovered by every generation of mankind. A major part of parenting in "civilizing" a new generation of children is the effort to teach what are natural rights, rights conferred by law, rights versus privileges and responsibilities, and the relation of responsibilities to both privileges and rights.

The political discourse of our time has been heavy laden with debate and discussion on the "Right to Choose." Many of the political gurus promoting these discussions want to make the "Right to Choose" into an inalienable and unqualified right, avoiding any discussion of qualifying objectives. Who has the right to choose what? Or when? Or if? However, when we humans project the "Right to Choose" as being indivisible or unqualifiable we come into the position that *my rights are superior to your rights*, since any choosing that affects another human being affects the rights of that human being. Logically, therefore, only those human choices that affect no other human being can be claimed to be absolute.

Oklahoma physicians are presently debating unification versus deunification with the American Medical Association. This long-running debate exacerbates periodically, and the proponents of deunification have invoked the politically popular "Right to Choose" as a principle that argues for deunification. A free citizen should have the right to choose *not* to join an association, they say, and leap from this truism to the quite different proposal that OSMA should withdraw its unified membership in the

AMA. Having already joined a county and state society where mandatory AMA membership is in place, the late demand for "choice" is roughly comparable to a call for a different destination after an airplane is in flight.

We believe the "Right to Choose" is an untenable argument for deunification with the AMA. More to the point is the answer to the question that columnist Ann Landers often poses to those considering a divorce: "Will you be better off with him, or without him?" And so it is with the AMA. When the time comes that most OSMA members would be better off without the AMA, we have perfect confidence the House of Delegates will deunify the association.

We must defend forever the opportunity for members to raise the question of deunification or mandatory AMA membership. We believe that a periodic—even annual—debate on controversial and perennial issues is an essential characteristic of a democratic association. Whenever the time shall come that AMA membership is not worth the time and money that it costs the average OSMA member, the opportunity to withdraw must be immediately available. When that time comes, we believe the deunification should be based on an AMA effectiveness rating and not on an abstract "Right to Choose" principle.

*Ray V. M. Intyre, M.D.*



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## In Time of Need...

Shakespeare once wrote that some are born great; others have greatness thrust upon them. Greatness was thrust upon a large number of individuals on April 19, 1995. It is truly unfortunate that it takes a tragedy of such horrendous magnitude as the Oklahoma City bombing to draw light to the greatness of the health care delivery system that we enjoy. I had the opportunity to observe this delivery system in action on that fateful Wednesday at one particular institution in Oklahoma City. I happened to be on surgery call at the Saint Anthony emergency room on that day. As an observer and as a participant in the activities on that particular morning, I can only state that I have never been more proud to have been part of a group of individuals who responded so professionally and so efficiently in a time of crisis. We all have been through so many disaster drills at hospitals where we practice that we have begun to take those drills in a matter-of-fact way. It truly is gratifying to observe the high level of training and efficiency that was demonstrated during the recent disaster.



I can only speak for one institution because I happened to be located at that facility at the time, but I would like to call special attention to Dr. Tom Coniglione, medical director of Saint Anthony Hospital, for the incredible way that he and his staff reacted to this event in an immediate response. Physician staff, nursing staff, support personnel, and volunteers responded in numbers that we never could have imagined. Physicians and nurses evaluated the situation as it changed moment by moment, saw areas of need and immediately began to

serve those areas of need and delivered in a very critical moment the finest care that anyone could have received. It was gratifying to see retired physicians appear at the hospital standing ready to offer aid and assistance in any way they could. It was wonderful to see Dr. Louis Speed, a retired general surgeon, at the emergency room providing his wealth of experience and skill in a calm and comforting way. Countless other retired physician appeared to offer their services. Dr. Jack Spencer and Dr. Frank Stewart were two others whom I had the opportunity to greet during their time of service in the emergency room.

But a vast majority of the praise goes to those active staff members who appeared immediately in the time of need and worked strenuously and tirelessly to provide the care that was needed. The numbers of patients who were seen initially after the blast ranged from 50 to 60. The magnitude of the response provided early on was such that most patients had two physicians and a number of nurses in immediate attendance. Patients were triaged, seen, cared for, and dispatched in a magnificent way that could only be imagined in a time of such tragedy. I have heard glowing reports from other facilities in the metropolitan area that received patients as a result of this incident, and all the reports have indicated that all emergency room personnel responded in like fashion to the events of that day.

To all of you who were there and responded when you were needed, on behalf of your friends and colleagues in the association, I can only say, simply, "Thank you."

*Larry Long*



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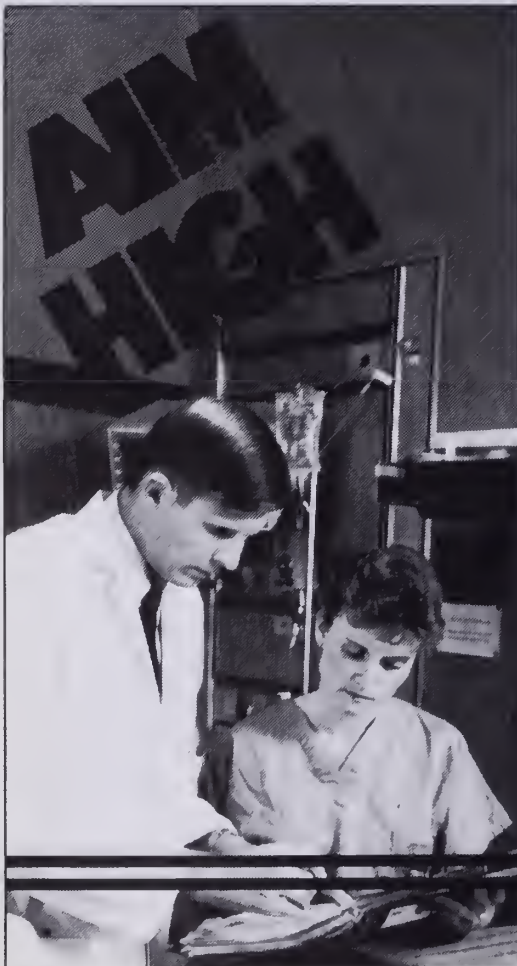
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## Smoking: High Hazards in High School

Neil Hann, MPH; Arthur Asghar, MPH; Willis Owen, PhD; Nabih Asal, PhD

**Background:** Young people in school are at an impressionable age, peer pressures are intense, and the probability that they will pick up a high-risk behavior, such as smoking, is high. The key to a reduction of smoking among adults is to target our prevention efforts at young adults and teens. **Objective:** To study the prevalence and trend of smoking among young adults and teens and to formulate guidelines on smoking reduction to guide those who counsel young people. **Study Design:** The study design is cross sectional. **Methods:** This study is based on the data from the Oklahoma Behavioral Risk Factor Surveillance System and the National Youth Risk Behavioral Surveillance System—the two systems that monitor the prevalence of behaviors that most influence health. **Results:** The prevalence of smoking among young adults (age 18-24) in Oklahoma is high at more than 21%. The disturbing feature is that it is higher among young females than among young males. The prevalence of smoking among young adults is the highest among high school dropouts and is more than 38%. It is lower among high school graduates (about 28%) and lowest among college graduates (about 18%). The percentage of smoking among students who classify themselves as current smokers rises from 23% to 30% as the students progress from grade 9 to 12 and the percentage of frequent smokers increases from 8% to 16%. **Conclusions:** Guidelines suggested for

counselors are: 1. Along with smoking, look for comorbid behaviors such as alcohol use, drug abuse, and high-risk sexual behavior. 2. Ask whether the student has easy access to free cigarette samples. 3. Check whether the teen is trying to lose weight; suggest appropriate methods for losing weight if smoking is being used for losing weight. 4. Target health education efforts early in a student's school career starting in elementary school, but concentrate especially at the 8th or 9th grade level to have maximum preventive impact.

Young people in school are at an impressionable age, peer pressures are intense, and the probability that they will pick up a high-risk health behavior is high. For example, smoking is a high-risk health behavior. As the Surgeon General's 1994 report points out: (1) Nearly all first use of tobacco occurs before high school graduation; this finding suggests that if adolescents can be kept tobacco-free, most will never start using tobacco. (2) Most adolescents who are addicted to nicotine want to quit but are unable to do so. (3) Tobacco is often the first drug used by those young people who use alcohol, marijuana, and other drugs. (4) Adolescents with lower levels of school achievement, with fewer skills to resist pervasive influences to use tobacco, with friends who use tobacco, and with lower self-images are more likely than their peers to use tobacco.<sup>1</sup>

Further, those who smoke in later life, usually begin smoking in early adolescence, typically by age 16. Almost all the first use of cigarettes occurs before young people graduate from high

Direct correspondence to Neil E. Hann, MPH, Director, Tobacco Use Prevention Office, Oklahoma State Department of Health, 1000 Northeast 10th Street, Oklahoma City, OK 73117-1299.



school. By age 18, about two-thirds of the young people have tried smoking. Smoking is most common among 17- to 18-year-olds; about 25% of them smoke.<sup>1</sup>

Among the Healthy People 2000 Objectives for the nation, Objective 3.10 specifically addresses tobacco-free environments in the school in these words:

Establish tobacco-free environments and include tobacco use prevention in the curricula of all elementary, middle, and secondary schools, preferably as part of quality school health education.<sup>2</sup>

This article examines (1) smoking as a major health risk behavior among high school students, (2) the current prevalence of smoking, and (3) trend over time in the prevalence of smoking behavior.

Guidelines are suggested for focusing health risk behavior prevention efforts.

### Methods

This study is based on the data from the Oklahoma Behavioral Risk Factor Surveillance System (BRFSS)<sup>3</sup> and the national component of Youth Risk Behavior Surveillance System (YRBSS).<sup>4</sup> These two surveillance systems are run by the states under guidance and support of the Centers for Disease Control and Prevention (CDC). The two surveillance systems monitor the prevalence of behaviors that most influence health (CDC's BRFSS Manual, 1989,<sup>3</sup> and CDC's Chronic Disease and Health Promotion booklet, 1990-91<sup>4</sup>).

The CDC started BRFSS in 1984. The Oklahoma State Department of Health (OSDH) chose to start this survey in 1988. The BRFSS is a telephone-administered survey. Prior to December 1993, the interviewers used pencil-and-paper method to record responses. Since January 1994, this survey has been conducted using the computer-aided telephone interview system. Under the BRFSS, the OSDH and other participating states conduct monthly surveys using the BRFSS questionnaire, which is standardized by the CDC. The questionnaire also has a component that comprises state-added questions. The response data is analyzed by the states and is also forwarded to CDC for aggregation of the data from all the states. In the past, the annual sample size has varied from 987 in 1988 to 1,509 in 1993.

BRFSS uses cluster sampling technique where the cluster is a group of telephone numbers drawn from a bank of 100 telephone numbers. It chooses a sample of adults using the Waksberg Random Digit Dialing design.

National YRBSS is a survey conducted by the CDC biennially during odd-numbered years among

a national sample of 9th through 12th grade students from public and private schools. It uses a three-stage cluster sample design. The sampling frame consists of students in all public and parochial and other private schools, in grades 9 through 12, in 50 states and the District of Columbia. Schools with large proportions of black and Hispanic students have a larger proportion of students included in the sample than other schools. The YRBSS questionnaire was developed by the CDC and is designed for self-administration in a classroom setting. It has a 7th grade reading level and contains 75 multiple-choice questions. Professionally trained data collectors administer the questionnaire in each school. Parents and students are asked to consent to participation in the survey. Students who do not participate receive an alternative activity to complete. Students are assured that their responses cannot be linked to them and that completing the questionnaire would not affect their grade. To protect anonymity, students are seated as far apart as possible within the classroom and are provided envelopes in which to enclose completed answer sheets.<sup>5</sup>

YRBSS, like the BRFSS, is based on self-reported data that appears valid for estimating the prevalence of health behaviors in adolescent population.<sup>5</sup> Survey administration procedures protect confidentiality and allow the participants to respond anonymously. The data from the two surveys, BRFSS and YRBSS, were analyzed using statistical methods such as exploratory data analysis, cross-tabulation into contingency tables, and chi-square analysis.

### Risk Factors

We are aware of the health risks posed by being overweight as well as the health risks posed by smoking, but between the two health-risk behaviors, the consequences of obesity among high school students are not as great as the consequences of smoking. Camp, et al,<sup>6</sup> found that one of the reasons why adolescents begin smoking is to lose weight. They reported that among regular smokers, 39% of white females and 12% of white males use smoking to control their weight or appetite.<sup>6</sup>

The greater dangers of smoking in relation to an overweight condition, as well as more appropriate measures to lose weight, need to be emphasized in our prevention programs.

**Free Cigarette Samples to Minors.**—Minors have easy access to cigarettes in spite of a ban on the sale of cigarettes to minors in most states. In this regard, the Institute of Medicine in their study report, "Growing Up Tobacco Free" make the following observations:

"Samples encourage experimentation by pro-

Between the two health-risk behaviors, the consequences of obesity among high school students are not as great as the consequences of smoking.



viding minors with a risk-free (*sic*) and cost-free way to satisfy their curiosity. Tobacco companies often distribute samples in places frequented by adolescents and children...

"Although most states prohibit the distribution of free samples to minors, monitoring the enforcement of these statutes presents practical difficulties for law enforcement officials, who may feel that their limited resources are better spent enforcing other laws. Nor is the tobacco industry's voluntary code effective."<sup>7</sup>

The Institute of Medicine recommends that distribution of tobacco products in public places or through the mail should be prohibited.<sup>7</sup>

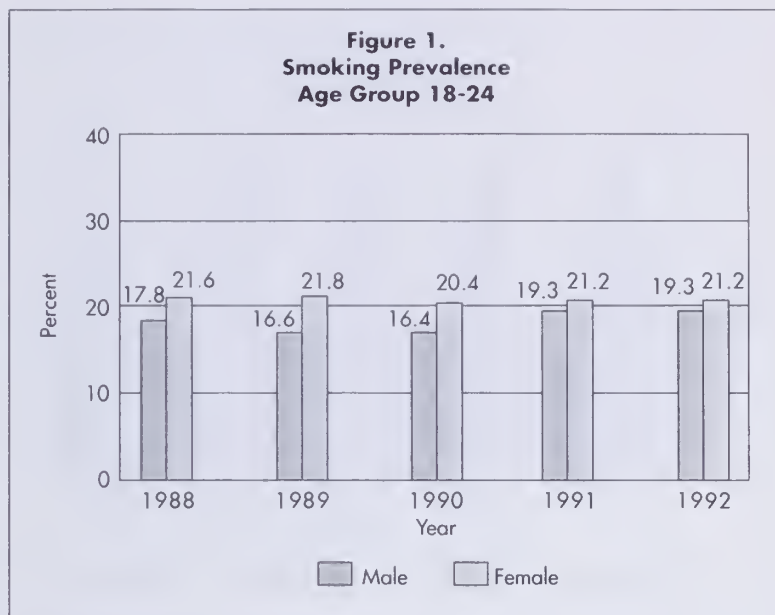
We feel that enactment of legislation to prohibit the distribution of free samples through the mail and in places frequented by minors, especially around schools, would help reduce access that minors have to cigarettes and thus help to reduce the prevalence of smoking among minors.<sup>14</sup>

**Dropping Out of School and Lower Education.**—It is becoming clear that one of the major correlates of whether a person smokes or not is the educational level attained by that person. The prevalence of smoking among those who are high school dropouts is much higher than those who have a college degree. In the coming years, as we move toward the year 2000, a low level of education, or early termination of formal education, will become the major risk factor that determines the smoking status of a person.

Pierce, et al.,<sup>8</sup> estimated that by the year 2000, at least 30% of those who have not proceeded beyond a high school education will be smokers, whereas less than 10% of those who are college graduates will smoke. They suggest that public health prevention efforts need to focus more on preventing young people from starting to smoke and such efforts should target the less educated groups.

**Comorbidity of Health Risk Behaviors.**—Risk behaviors that the school-going population is exposed to seem to occur together, that is, a *co-morbidity* among health-risk behaviors exists. A person who begins to smoke is also likely to experiment with alcohol, drugs, or high-risk sexual activity. According to the Surgeon General's report: (1) Nicotine is generally the first drug used by young people who use alcohol, marijuana, and harder drugs. (2) Adolescent tobacco use is associated with being in fights, carrying weapons, and engaging in higher-risk sexual behavior.<sup>1</sup>

Coexistence of various high-risk behaviors among adolescents was also documented by Kokotailo and his colleagues.<sup>9</sup> They found in their research that among the various risk factors that determine whether an adolescent female drinks



or takes drugs, the two most important are (1) having been "high" at school and (2) personal use or friends' use of cigarettes.<sup>9</sup>

Their research sought to determine the prevalence and associated risk factors of cigarettes, alcohol, and other drug use among school-age adolescents attending a comprehensive teenage pregnancy program.<sup>9</sup>

Similar findings were reported by McDermott, et al.,<sup>10</sup> who found these important predictors of cigarette use by high school students: (1) ethnicity, (2) attitude towards females who smoke, (3) close friends' use of cigarettes, (4) personal use of marijuana, (5) best friends' use of cigarettes, and (6) personal use of alcohol and school self-esteem.<sup>10</sup>

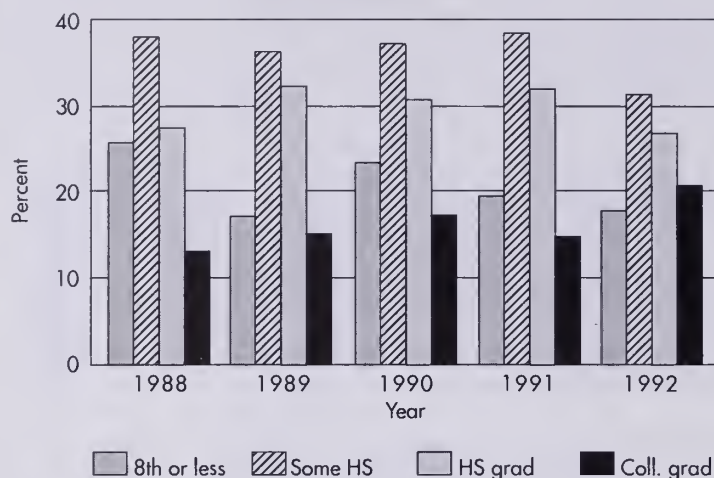
**Smoking Initiation.**—Skinner, et al.,<sup>11</sup> found that some of the factors that determine whether a student will begin to smoke are: (1) commitment to education, (2) attachment to father and mother, and (3) association with female smoking friends.

Escobedo<sup>12</sup> and Glynn<sup>13</sup> found that smoking initiation rates increase rapidly after age 10 and peak at age 13 to 14 years. Students who begin smoking at age 12 or younger are more likely to be regular and heavy smokers than students who begin smoking at older ages. Intervention to prevent smoking should be available before age 12 to help combat the smoking epidemic that exists among youth.<sup>12,13</sup>

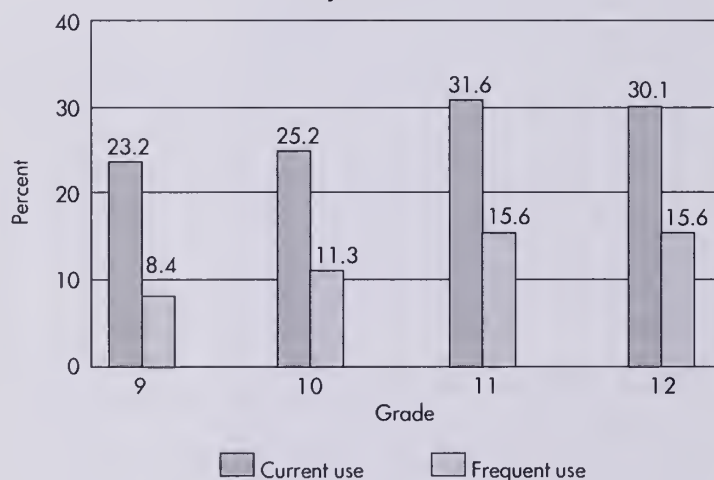
## Results and Discussion

**Prevalence of Smoking Among Young Adults (18-24 Yrs).**—The prevalence and trend of smoking in Oklahoma among young adults 18- to 24-

**Figure 2.**  
Smoking Prevalence  
By Educational Level



**Figure 3.**  
Tobacco Use  
By Grade



Current = smoking cigs on 1/more of the 30 days preceding survey  
Frequent = smoking cigs on 20/more of 30 days preceding survey

years-old is shown in Figure 1. This figure is based on the data obtained from the Oklahoma BRFSS. As can be seen from this chart, the prevalence of smoking among young adults is high. The prevalence of smoking among young males shows an increasing trend in the last two years. However, the disturbing feature is that the prevalence of smoking is *higher among young females* than among young males. Smoking among young pregnant women can have serious deleterious

effects on the fetus and can result in low birth weight babies, which can lead to a trail of life-long health problems for the baby and a burden to society.

**Prevalence of Smoking Among Adults with Various Educational Levels.**— The prevalence of smoking among various education levels in Oklahoma is shown in Figure 2. It is seen that the prevalence of smoking among *high school dropouts is the highest*. Surprisingly, the prevalence of smoking among those who dropped out before the 9th grade is not high. It is surmised that when a teen enters the 9th grade, many things are at work that make that child more susceptible to experimenting with high risk behavior. For example, at this time in their lives, teens have generally entered puberty, the parental influence may be less or there may be an undercurrent of rebellion against parental control, the desire to conform to group norms is high, and peer pressures increase rapidly.

**Prevalence of Smoking Among College Graduates.**— The prevalence of smoking in Oklahoma among college graduates and those with higher levels of education is lower than among high school dropouts (Fig. 2). It is likely that those who go on to complete their college education may be less influenced by peer pressure and the tobacco industry's advertising, but those who drop out of school are at greater risk of being hooked on this high risk behavior for the rest of their lives. It has been found by Flay, et al, that those who dropped out of high school were smoking at more than twice the rate of those who were still in the 12th grade in high school.<sup>15</sup>

**Prevalence of Smoking Among High School Students (Grades 9 Through 12).**— The prevalence of smoking among high school students by grade is shown in Figure 3, which is based on data from the national YRBSS, 1991.

The percentage of smoking among students who classify themselves as "current smokers" rises from 23% to 30% as the students progress from grade 9 to 12; the percentage of "frequent smokers" increases from 8% to about 16%. This points to the need for effective and vigorous efforts to be targeted at the students who are in the *8th and 9th grades* and through high school to keep the prevalence from increasing.

## Conclusions

The lessons for smoking initiation prevention are that efforts to prevent people from smoking must be concentrated at the 8th/9th grade level where young persons enter the most vulnerable stage of their lives. Efforts to teach young persons the dangers of smoking should be initiated at the

youngest possible age, before age 12. But the greatest concentration of effort must be at the 8th/9th grade when the temptation to try high risk behavior such as smoking is very great. At this stage adolescents need help desperately, and positive intervention can go a long way in winning the battle against smoking and other comorbid behaviors.

Some helpful guidelines for health educators and counselors are summarized below:

1. Along with smoking, look for co-morbid behaviors such as alcohol use, drug abuse, and high-risk sexual behavior.

2. Ask whether the student has had access to free cigarette samples.

3. Check whether the teen is interested in losing weight and the methods being adopted for this purpose.

4. Concentrate health education efforts early, in elementary school and especially at the 8th or 9th grade to have maximum impact on tobacco use prevention.

J

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## Conjoined Twins

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Arthur H. Schipul, Jr., MD; Warren M. Crosby, MD

Conjoined twins, otherwise known as Siamese twins, have fascinated physicians and laymen alike for centuries. The minimal diagnostic criteria for conjoined twins is the fusion of some portion of mononuclear or monozygotic twins.

### Case Report

J.S.W. is a 23-year-old married, black, primagravida in her 17th week of gestation. Routine ultrasound revealed thoracopagus conjoined twins with a shared heart and liver (Figs. 1 & 2). The Therapeutic Abortion Committee of the Department of Obstetrics and Gynecology has been in effect since 1962. When a problem or a request for a therapeutic abortion is identified, the case is discussed, a decision reached, and a recommendation specific to the case is made. The Therapeutic Abortion Committee (TAC) met and decided that it would be appropriate to offer the patient a therapeutic abortion on the grounds that this was a uniformly lethal situation. The patient and her family evaluated their options and requested therapeutic abortion. After perinatology consultation, it was decided that a hysterotomy was the most appropriate method. On July 1, 1993, hysterotomy was carried out with the delivery of thoracopagus conjoined twins. They died soon after birth, if not during the process.

The surgical pathology report revealed thoracopagus twins joined at the anterior thoracic and upper abdominal wall. The twins were facing each

other in a symmetrical manner. The combined weight of the twins was 216 grams. The crown-heel length of each twin was 17.5 cm, crown-rump length 11.5 cm, and head circumference 18 cm. The attached single umbilical cord was 8 cm long and contained one artery and one vein. The skin was very delicate and reddish-tan. The heads and faces were normally formed (Figs. 3 & 4). The eyelids were sealed. The ears, nose, and mouth were unremarkable. The plates were intact. Four normally formed arms and legs were present. Both external genitalia were male. Each anus was patent to probe. Dissection revealed normal ribs and each fetus had a normal esophagus, trachea, two normally lobulated lungs, stomach, gallbladder, pancreas, small and large intestine, and spleen. The genitalia and urinary tracts were unremarkable. The livers were joined anteriorly; so was the diaphragm. The single umbilical vein had an attachment to twin A's liver. There was a single pericardial sac.

The heart is flat and has a pentagonal shape. The atria are caudal to the ventricle and are adjacent to the liver. The great arteries arise from the lateral aspects of the respective hearts. There is a common atrium. Two inferior vena cava join a shared atrium. In twin A, two abortive atria are present. There is a thin membrane forming a partial septum which separates the atria of twin A. There is a large dextropositioned atrial appendage and a small cephalad left atrial appendage. There is a cord-like structure parallel to the membranous septum. Twin B has a single atrium with a large posterocephalad and right-sided atrial appendage and a small anterior and caudal left appendage.

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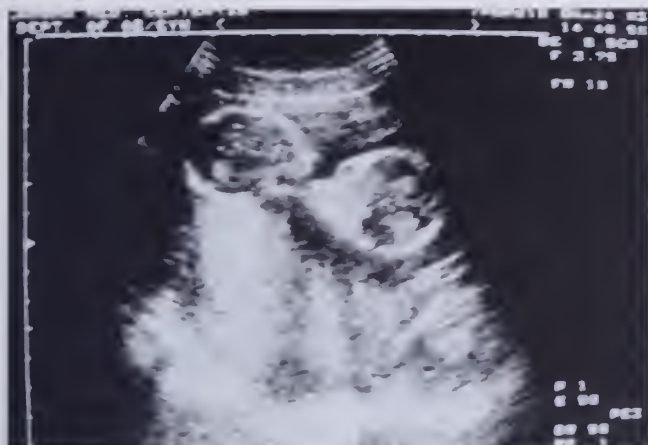


Figure 1. Ultrasound at 16 weeks showing twin gestation. Photograph by author (AHS).

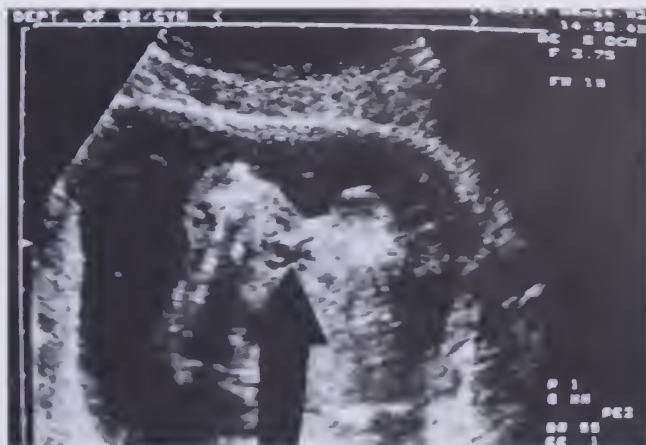


Figure 2. Ultrasound at 16 weeks showing a single heart shared by conjoined twins. Photograph by author (AHS).

The superior vena cava of twin A joins the right atrium normally. Twin A's pulmonary venous drainage is slightly anomalous. Two veins join into a common pulmonary vein which drains into the left atrium of Twin A. The superior vena cava of twin B has a normal location. The two pulmonary veins of twin B are joined into a common one; this drains into the common atrium together with the superior vena cava and inferior vena cava.

Twin A has two ventricles and twin B, one ventricle. There are two atrioventricular valves, one on twin B's side. This morphologic characteristics of right ventricle. That ventricle has one aortic and one pulmonary outflow tract. The atrioventricular valve of twin A is very abortive and located at the conjoined zone of the two hearts. There is a large morphologic left ventricle with one outflow tract. The pulmonary artery of twin A connects with a small chamber which communicates with the left ventricle through a small opening. The conjoined zone of the two hearts appears to be at the level of the large left ventricle of twin A which communicated through a septal defect with the right ventricle of twin B. The great vessels of twin A are normally related. The aorta arises posteriorly from a morphologic left ventricle and the pulmonary artery arises from the infundibular outflow chamber anteriorly and slightly to the right of the aorta. The aortic valve has three cusps and the pulmonary valve has two cusps. The external diameter of the aorta and pulmonary artery are 0.35 cm and 0.2 cm, respectively. Both great arteries of twin B arise from a morphologic right ventricle. The aortic valve has three cusps. The pulmonary valve is extremely small. The external diameters of the aorta and pulmonary artery are, respectively, 0.3 and 0.15 cm.

Both twins have left aortic arches with normal origins of the brachiocephalic, carotid, and sub-

clavian vessels. Twin A has a ductus arteriosus with an external diameter of 0.05 cm. This arises from the main pulmonary artery and joins the arch at the level of the left subclavian artery. Twin B has a very narrow ductus arteriosus which originates from the left pulmonary artery and joins the arch above the level of the left subclavian artery. The abdominal aortas of twin A and twin B have circumferences of 0.3 cm and 0.15 cm, respectively. Twin A has a single right-sided umbilical artery; twin B does not have any umbilical artery.

Twin A has a main right and main left pulmonary artery. Twin B has one left pulmonary artery. There is an additional branch to the right lung of twin B arising just below the origin of the brachiocephalic artery from the aortic arch.

## Discussion

The incidence of conjoined twins has been reported at 1 in 15,000 to 1 in 100,000. Seventy-five percent of conjoined twins are females. The incidence of conjoined twinning at University Hospital, OUHSC, in Oklahoma City, based upon cases occurring over the past 10 years (1983-1993) was 3 in 39,928 deliveries or approximately 1 in 13,000. With the sex ratio of these three cases being 2:1, M:F.

The precise etiology of conjoined twinning is unknown; however numerous theories have been proposed over the centuries to explain this phenomenon. The theory that currently prevails, however, is that the same influences that cause monozygotic twinning are responsible for cases of abnormal twinning. Conjoined twins are believed to originate from a single ovum and therefore have the same sex and identical chromosome patterns. According to Zimmerman et al, the basic defect leading to conjoined twinning is an in-

No predisposing factors have ever been linked to the incidence of conjoined twinning.





Figure 3. Thoracopagus conjoined twins. Photograph by author (AHS).

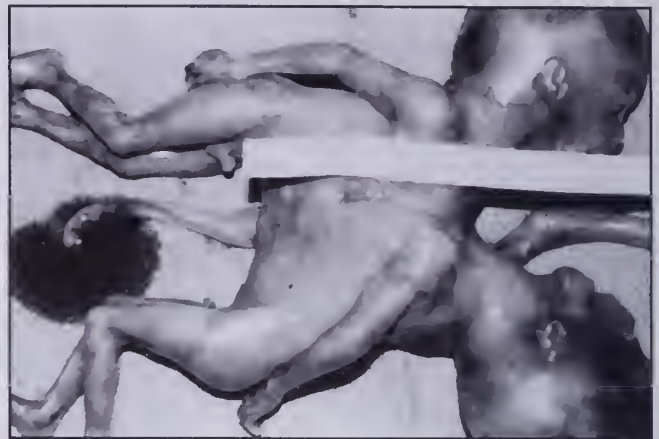


Figure 4. Close-up showing thorax of conjoined twins. Photograph by author (AHS).

complete, delayed fission of the inner cell mass of the embryo, which occurs following the 14th day after fertilization. Complete separation would lead to separate but identical twins, whereas incomplete separation leads to conjoined twins.

No predisposing factors have ever been linked to the incidence of conjoined twinning. In the majority of cases, the prenatal course was uneventful with no history of exposure to teratogens or environmental hazards.

Moreover, to date no evidence has been presented to support a genetic etiology for conjoined twinning. Indeed, children who were reported to be the offspring of conjoined twins have been entirely normal. Extensive studies of the families of conjoined twins through several generations also have failed to demonstrate any recurrence of conjoined twinning or any other patterns of congenital anomalies. Cytogenetic studies using peripheral lymphocytes have revealed normal chromosome patterns in conjoined twins.

Numerous other factors have been evaluated regarding their potential association to the occurrence of conjoined twinning. As with single ovum twinning in general, the incidence of conjoined twinning has been found to be independent of maternal age, race, parity, and heredity.

The many types of conjoined twins may be broadly classified as either equal or unequal. The unequal forms, belonging to the category *duplicata incompleta*, include the parasitic variety in which there is unequal duplication of structures. In these cases only part of the anatomical structure of the fetus is duplicated. The equal forms of the category *duplicata completa* show equal or nearly equal duplication of structures. The most frequent types of conjoined twins are thoracoomphalopagus (28%), thoracopagus (18%), omphalopagus (10%), incomplete duplication (10%),

and craniopagus (6%). Of the three sets of conjoined twins reported at the University Hospital of Oklahoma, one set was xiphopagus, one set was thoracopagus, and the third set was *duplicata incompleta*.

Anatomic abnormalities are the rule in conjoined twins. In most cases, it is possible to assume that they derive directly as a consequence of the presumed abnormal division of the embryonic mass. In other cases, the origin of the malformation can not be explained on a purely mechanical basis, and it suggests a more diffuse disturbance of morphogenesis.

### Diagnosis

Early prenatal diagnosis and assessment for shared vital organs are desirable for optimal obstetrical counseling and management. A detailed ultrasound examination to exclude the possibility of conjoined twins is mandatory in all multiple pregnancies. The index of suspicion should be raised when an interamniotic membrane cannot be identified, because all conjoined twins are monoamniotic. Other signs include difficulties in completely separating the twins, fetal spines in unusual extension or proximity, more than three vessels in the umbilical cord, and single cardiac motion. Discordant presentation does not exclude conjoined twins. The prenatal diagnosis has been reported several times and can be made as early as the first trimester of pregnancy. Polyhydramnios is present in 75% of thoracopagus twins. A complete examination of the twins is indicated because of the high frequency of associated anomalies. Neural tube defects, orofacial clefts, imperforate anus, and diaphragmatic hernia are the most common defects not associated with fusion. Echocardiography is indicated in all cases as congenital heart disease is a major prognostic factor

Although conjoined twins have lived as long as 63 years without separation, surgical separation is the management of choice.



for survival. Evaluation of the visceral situs is important because abnormalities of the disposition of the abdominal organs are highly suggestive of cardiac effects. If the diagnosis is not certain, other imaging techniques can be considered, including plain radiography, CT, MRI, or even amniography. Radiography may show a bony connection, but is otherwise less detailed than sonography. Amniography, especially when performed with oil soluble dyes, may allow a better delineation of the bridge between the twins, because these dyes adhere to the fetal skin surface.

### Prognosis

The survival of conjoined twins is dependent upon the type of conjunction and the presence of associated anomalies. Thirty-nine percent of conjoined twins are stillborn, and 34% die within the first day of life. Although conjoined twins have lived as long as 63 years without separation, surgical separation is the management of choice. Psychological studies of unoperated twins reveal serious limitations to the quality of life. Surgical separations have been successfully performed on all types of conjoined twins with the exception of those thoracopagus twins with conjoined hearts.

### Conclusion

The diagnosis and management of conjoined twins is a rare and challenging task. Careful attention must be given to early ultrasound diagnosis, parental education, and counseling, and close obstetrical management. The future will hold many interesting surgical and obstetrical advances, as well as ethical and economical dilemmas in the management of conjoined twins. J

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## Neuroleptic Malignant Syndrome: A Clinical Conundrum

Gregory A. Millnamow, MS IV

The neuroleptic malignant syndrome (NMS) is a potentially fatal complication of antipsychotic pharmacotherapy. The incidence rate of NMS is about 2% of all patients receiving neuroleptics, while the overall mortality rate is in excess of 10%. Inconsistencies in the diagnostic criteria for NMS have resulted in a variety of presentations and precipitating factors being associated with this condition, which in turn has led to the reporting of contradictory research findings. This article summarizes the literature with respect to the diagnosis and treatment of neuroleptic malignant syndrome and the challenge of subsequent management of the psychotic patient.

Neuroleptic malignant syndrome (NMS) is a relatively uncommon but serious adverse complication of antipsychotic pharmacotherapy. While chiefly associated with the neuroleptic haloperidol, it has also been reported to be an adverse sequela with numerous non-neuroleptic medications.<sup>2,14</sup> Current trends in health care delivery indicate that the number of patients receiving neuroleptics under the supervision of their primary care physician has been rising and will continue to do so. It is therefore imperative that practitioners be able to recognize this disorder early in its course so as to assure prompt intervention and diminish the potential for serious morbidity. It is the purpose of this review to briefly

summarize the current literature with an emphasis on recognition, treatment, and subsequent psychopharmacologic management of the patient with NMS.

### Epidemiology

The side effects of antipsychotic medications may include acute dystonic reactions, tardive dyskinesia, Parkinsonism, akathisia, and neuroleptic malignant syndrome.<sup>2</sup> Neuroleptic malignant syndrome has been reported to affect both sexes and all ages, with most of the cases reported in the literature being young to middle-aged men.<sup>3,11,15,23,28</sup> NMS is reported to have an incidence of about 2% in patients taking antipsychotic medication and has a mortality rate of 10-20%.<sup>6,15,20</sup>

### Diagnostic Criteria

Neuroleptic malignant syndrome, as defined in *Dorland's Illustrated Medical Dictionary*, is "a rare, sometimes fatal reaction to neuroleptic drugs, characterized by hyperthermia, rigidity, and coma." It was first described following the introduction of neuroleptics by Delay et al. in 1960 as "akinetie hypertonic syndrome."<sup>5</sup> Although different diagnostic criteria have been proposed, there has not been a consensus until recently as to which specific signs and symptoms should constitute a diagnosis of NMS. Gurrera<sup>8</sup> showed that inconsistent diagnostic criteria have been used in the clinical investigations of NMS, which could explain some of the contradictory findings that have been reported with respect to risk factors, incidence, therapeutic responses, etc. It should be noted that less than 50% of patients present with the

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"classic" symptoms, and, as noted above, NMS has been reported to occur with non-neuroleptic medications.<sup>2,10,22,24</sup>

In an effort to forge a consensus, Caroff et al.,<sup>4</sup> after an extensive review of the literature, proposed criteria for the diagnosis of NMS that emphasize the presence of muscle rigidity and hyperthermia, while still incorporating the more variable associated signs (Table 1).

## Pathogenesis

Neuroleptic malignant syndrome is generally recognized to occur secondary to neuroleptic administration (antipsychotic medications block dopamine receptors) or cessation of antiparkinsonian medications (resulting in depletion of the neurotransmitter dopamine).<sup>14,15</sup> Development of NMS has not been found to be related to either dosage or duration of medication.<sup>25</sup> NMS has been suggested to be the result of a disruption in the hypothalamic thermoregulatory control or a hypermetabolic disorder with excessive skeletal muscle contraction as the source of heat. NMS has also been attributed to external heat stress, with three cases being reported during a heat wave.<sup>21</sup> The exact mechanisms by which the various complications of neuroleptic therapy are mediated are unknown. However, it is generally accepted to be a result of dopamine receptor blockade in the corpus striatum.<sup>23</sup> Single photon emission computed tomography perfusion brain scans performed during the active phase of NMS suggest that a disturbance in the basal ganglia is related to the development of NMS.<sup>16</sup> Complimentary animal studies indicate that neuroleptics may alter serum iron transport and thus alter striatal dopamine receptor function.<sup>1,27</sup>

## Treatment

**Acute Phase.**—Once the clinician has narrowed the differential diagnosis to NMS, the initial steps in treatment of neuroleptic malignant syndrome are to discontinue the precipitating medication and administer aggressive supportive care (hydration, antipyretics, etc.) with particular attention to monitoring the cardiopulmonary and renal systems.<sup>3,9</sup> It should be remembered that severe extrapyramidal symptoms may persist for days beyond the cessation of neuroleptics. Dopaminergic agents (e.g., bromocriptine, amantadine, Sinemet) along with skeletal muscle relaxants (e.g., dantrolene) are the first-line treatments.<sup>20</sup> Dantrolene monotherapy is a short-term option, but monitoring of liver function enzymes is essential to forestall potential hepatotoxicity.<sup>9,12,19</sup> Other treatments reported in the literature, albeit with limited demonstrated effi-

**Table 1. Diagnostic Criteria for Neuroleptic Malignant Syndrome\***

1. Treatment with neuroleptics within 7 days of onset (2 to 4 weeks for depot neuroleptics)
2. Hyperthermia (38°C or higher)
3. Muscle rigidity
4. Five of the following:
  - Change in mental status
  - Hypertension or hypotension
  - Tachypnea or sialorrhea
  - Tremor
  - Incontinence
  - Creatine phosphokinase elevation or myoglobinuria
  - Leukocytosis
  - Metabolic acidosis
5. Exclusion of other drug-induced, systemic, or neuropsychiatric hypermetabolic illness

\*All five "major" criteria must be met concurrently  
 From: Caroff SN, Mann SC. Neuroleptic malignant syndrome.  
*Med Clin N Amer* 1993; 77:185-202.

cacy, include the use of anticholinergic agents, benzodiazepines, calcium channel blockers, and electroconvulsive therapy.<sup>12</sup>

**Neuroleptic Rechallenge.**—Patients that require antipsychotics following an episode of NMS may be successfully rechallenged. The consensus in the literature is for an interval of at least two weeks to be observed following recovery from the NMS episode prior to re-administration of neuroleptics.<sup>26</sup> While many authors feel it is prudent to choose a lower-potency neuroleptic from a different class than the one known to have precipitated the NMS episode, successful rechallenge has been accomplished with the same medication and dosage.<sup>13,17,18,26</sup> Depot neuroleptic therapy has not been shown to be associated with any increased risk of morbidity or mortality and is not contraindicated in patients with a history of NMS; however, caution is advised in patients with a history of NMS due to the duration of these long-acting neuroleptics.<sup>7</sup>

## Summary

Neuroleptic malignant syndrome is a potentially fatal complication of antipsychotic pharmacotherapy. It is characterized by hyperthermia, muscle rigidity, altered mental status, autonomic nervous system dysfunction, elevated creatinine phosphokinase, leukocytosis, and myoglobinuria. The treatment of the syndrome consists of discontinuation of the neuroleptic in question, aggressive supportive care, and medication including a dopaminergic agonist and/or muscle relaxants. Of course, the most important determinant of



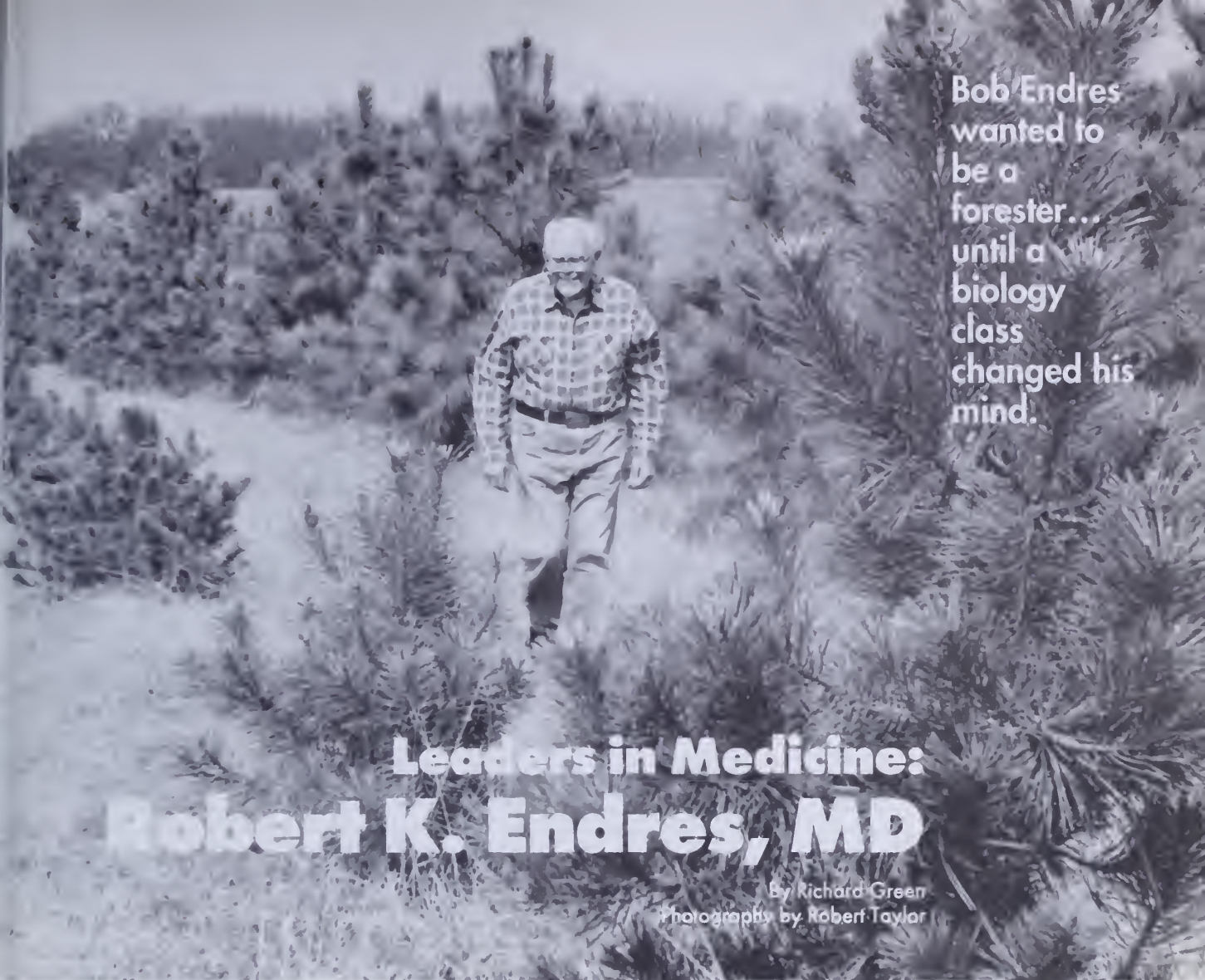
outcome is the prompt recognition of neuroleptic malignant syndrome by the clinician and timely intervention.

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Bob Endres  
wanted to  
be a  
forester...  
until a  
biology  
class  
changed his  
mind.

## Leaders in Medicine: Robert K. Endres, MD

By Richard Green  
Photographs by Robert Taylor

Sometimes it seemed to Bob Endres that being in Korea was a dream. Only a few months before, in 1951, Dr. Endres and his wife were raising their two children and he had been a g.p. practicing in Sallisaw and the hills and hollows of Sequoyah County.

He was a g.p. because he liked everything about being a doctor. At med school his favorite specialty had been whatever clinical rotation he was in at the time. And so he figured why give up anything; why not do it all—surgery, obstetrics, diagnostics, pediatrics, psychiatry.

What he failed to realize was that even an excellent medical education and internship would not prepare him to deliver those services with the competency and style he had envisioned. After almost two years in Sallisaw, he saw himself as a triage doctor, referring more and more patients to specialists in Ft. Smith, Muskogee, Tulsa, and Oklahoma City.

And there had been months when it seemed to him that he must have treated every single resident of Sallisaw. In fact, he was seeing 50 to 70 patients a day. At \$2 an office visit and \$3 for a house call, he should have been making a good income for 1950. But the scenic beauty of Sequoyah County that he initially had been so taken by had covered up the chronic and pervasive poverty. Only about half of Endres's patients could pay his fee.

It was time for a change. Since he liked working with his hands and was attracted to the fees surgeons were commanding, Endres had applied for a surgical residency at University Hospital in Oklahoma City. But if he left Sallisaw, he knew he was "draft bait" because he still had a military obligation and the Korean War had intensified.

Overriding that concern, however, was Bob Endres's feeling that he owed a personal obligation to the Army because it had paid for part of his medical education toward the end of World





War II. So even though his surgical residency did come through, he put his new career plan on hold for two years. Besides, Endres was confident that the Army would not send

a married man with two kids to Korea.

A few weeks later, he was in Inchon. And over the next few months there, he gave up the idea of becoming a surgeon—not because he had decided that he wouldn't be happy or successful, but because he had discovered something even better. And of all things (considering he was the medical officer of a replacement battalion in the U.S. Army in Korea), it was pediatrics.

Forty years later, at his retirement party in Tulsa in July 1992, Endres told the story of how this happened. It was a moving part of his valedictory that he presented that evening to a large audience of family, friends, and colleagues. Endres is an accomplished story teller with a droll sense of humor and a big grin that seems to enhance the humor in his stories.

He told the story of his first home delivery in Sallisaw. Actually, it was way out in the country and when the road ran out, the husband led Bob across a pasture to the small patchwork house. The woman was about due and while Endres turned his attention to her, the husband took the doctor's suggestion and began to shoo the chickens outside. Endres continued for two or three minutes describing the scene, the labor and finally the birth, which was normal.

This was classic story telling, meticulously setting up everything for the big punch line. Everyone was still with him, through the long build-up. "Next, I delivered the afterbirth and, wrapping it in some newspaper, I told the husband that

he could burn it or bury it," Endres said. "With a slight look of incredulity, the man nonchalantly took the placenta by the cord and flipped it through the window into the yard. As he was doing so, he said, 'Oh, no, Doc, the chickens just love these things.'"

Several of the guests took turns at the podium telling Bob Endres stories, and though this part of the party was supposed to be a roast, many of the speakers veered off briefly to mention what a superb, what a model pediatrician Endres had been.

In the context of the evening's celebration, these brief but fervid testimonials underscored the propriety of his unlikely Korean epiphany—to become a pediatrician. To that endeavor, he brought a number of influences and experiences and he used them wisely to become the man that so many people were honoring.

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Robert Endres was born in Madison, Wisconsin, on February 27, 1923. Both sides of his family came from Germany. His mother's maiden name was Helen Schlatter. If that surname seems vaguely familiar, it's because Bob's cousin is George Schlatter, the producer of TV's "Laugh-In." Since that show's heyday in the late 1960s and early '70s, Bob has been telling people that he must have gotten his sense of humor from his mother's side of the family.

His father's mother journeyed from Munich to Wisconsin, where she met and married a man named Endres. After he developed tuberculosis, the couple and their four children moved to Canyon City, Colorado. Mr. Endres died shortly thereafter and Mrs. Endres moved the family to Omaha, where she cooked for an orphanage. By saving her money, she was able to purchase a rooming house in Lacrosse, Wisconsin. She was an exceptional woman, especially for the times. She worked hard, running the rooming house and cooking for her boarders while raising her four children alone. Her thriftiness, good business sense, and remarkable self-discipline enabled her to acquire a second rooming house and achieve her goal of having all four children graduate from college.

One of her children, Otto, was a track and field star while attending the University of Wisconsin at Madison. He was pole vaulting high enough in 1914 to qualify for the U.S. Olympic Team but

The U.S. Army helped Endres pay for medical school near the end of World War II, so he felt obliged to serve when things heated up in Korea.





the beginning of World War I forced cancellation of the 1916 games. Instead of chasing an Olympic medal, Otto Endres, as a captain in the Wisconsin National Guard, was part of an 11,000 man punitive expedition chasing Pancho Villa out of New Mexico and around Mexico.

Having received a bachelor's degree in physical education from the University of Wisconsin, Otto returned there and began teaching in the high school. Although he enjoyed teaching, it had not been his first career choice. Otto had wanted to go to medical school but lacked the money. Bob doesn't mention this as a factor in his decision to pursue a medical career, but says that his father without doubt had the greatest influence on his life.

Otto married Helen Schlatter and by 1923 the couple had two children, Miriam and then Robert. A few months later, the family moved to Tulsa, where three other children were born (Dick, John, and Helen) and Otto began teaching at Central High School.

Otto was a strict disciplinarian, but his kids all loved and admired him so much that they rarely

disobeyed or disappointed him. He expected all his children to graduate from college as he and his siblings had. Just getting by financially on a school teacher's salary during the Great Depression was tough enough, so the mere thought of sending five kids to college was an act of faith.

They were church-going, God-loving Lutherans, who attended Sunday school and sang in the choir. But the Endreses were unassumingly religious. Praying in public embarrassed them, and even grace at home was individually observed through a few moments of silence.

In 1926, the director of a summer camp for boys in Minnesota came through Tulsa on a recruiting trip for campers and for a teacher looking for summer work as the camp's waterfront director. Otto, accomplished at all water sports, got the job and for the next several summers took his family with him and began teaching his own kids the rudiments of swimming, diving, archery, canoeing, tennis, baseball, and camping skills. He also began saving his money; if the right land became available at the right price, he would start his own summer camp.

A skilled outdoorsman, Bob Endres loves his "home away from home" near Stone Bluff, Oklahoma.



Adventurer and family man, Endres has flown a plane to Mexico with his brother and canoed Canadian waters with his daughter.

The time arrived in 1935. Otto borrowed money from his mother and bought land on Cass Lake about 200 miles north of the Twin Cities. He called it Camp Chippewa, after the Indian tribe famed for making birch bark canoes and driving the Sioux out of Minnesota.

Already skilled with an ax by age 13, Bob helped to clear the land out of a pine forest. "My Dad and two brothers worked from dawn till dusk every day for a month. Then while a carpenter constructed the first cabin and mess house, we hauled stones for the fireplaces and chimneys."

At night enormous mosquitoes swarmed over the camp while the builders were inspecting themselves for wood ticks. As part of Bob's woodsman lore, he discovered he could put 20 blood-engorged ticks on one safety pin.

For the first years, campers had neither electricity nor indoor plumbing. "We paid Indians to cut blocks of ice out of the lake and pull them to our icehouse where they were stored until summer," Endres recalls. "Retrieving them with a wheelbarrow was one of my jobs. I also used the wheelbarrow to transport the concrete for our first tennis court. I cut and split firewood for the cookstove that was used by my mother to feed everyone throughout the summer. I worked like a hired hand, but I also had the chance to get to be pretty good at sailing and canoeing—on the Mississippi River—and pistol shooting, tennis, and swimming."

Bob also excelled at camping and survival skills, but sometimes out in the wilderness he was just plain lucky. In 1940, a terrible storm seemed to

erupt out of nowhere. At first Bob and his tentmate tried to ride it out by hanging on to their tent from the inside, but the wind and rain got stronger. They abandoned the tent and raced for an old hunter's cabin, where they found the other groups of canoeists. The gale-force winds blew the chinks out from between the logs. The boys all hunkered down and prayed they would survive.

After what seemed like an eternity, the winds subsided to merely strong. Outside, the boys couldn't believe the devastation. Much of the forest about them had been leveled, even some of the huge and majestic old growth. Bob took a picture of a flattened car resting beneath a large pine tree.

"I believe that all of us who went through that got As on compositions about that experience," Bob says. "Even my brothers who weren't there wrote about it like they were and they got As, too."

By the time Bob was in high school, he had become a standout in tennis, diving, and the breaststroke. Otto had introduced him to these sports and instilled the notion that he should always do his best. He won the ninth grade city tennis championship but tore cartilage in his knee in the state tournament, an injury that would worsen years later and thousands of miles away. He also was captain of the swim team and president of the letterman's club. "I hated to lose any competition, but was never bitter about it," Endres says. "I also learned this from Dad and that this attitude applied not just to sports but to life."

Bob was handsome and made good grades as his father had and expected from him. He was a



Big Man on Campus in every way but one. He had fewer than half a dozen dates in high school. He says this was because he was so focused on his goal of getting into medical school. But Endres also says that he may have been using his goal as a way of escaping possible rejection. Dating cost money, and Bob didn't have much.

His career goal changed in high school. "What with my experiences at camp in Minnesota, I had always wanted to be a forester. Never anything else until at 16 I took biology from Mr. G. E. Tenney. He made biology come to life; I was fascinated by how the human body worked. Couldn't wait to get to his class each day. I decided I had to be a doctor."

He told his father about this one evening while they were playing ping pong in the basement. Otto had no comment until the game was over. Afterwards, he told his son that wanting to be a doctor was good, but there were four other kids to get through college and no money for medical school. Bob said he would work. Then Otto told Bob about the plan he had been harboring: "If you were to get a doctorate in P.E. you could go into teaching. You're good with kids. I thought you might eventually take over the camp."

"I told Dad I loved the camp but this new thing, becoming a doctor, was what I really wanted to do," Bob says. "And yet, I was almost totally ignorant about what a doctor does, could I emotionally handle death and severe trauma, how much money med school would cost, how much money doctors make. And because our grades were either S or U, I didn't even know if I was smart enough...."

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Bob's dream was to attend college at the university in Madison, as his father had. But the out-of-state tuition was too high and so to establish residency, he enrolled at the less costly university in Lacrosse. He lived with his grandmother and set pins in a bowling alley; his arms became so muscular that his swim coach thought they would slow him down.

At that point, Bob got a job as an orderly in the local hospital. He needed the experience to know if the "blood and guts" would be too much for him. He learned much more than just that he could take it. He moved into a room in the basement, across from the autopsy room and another room with a pool table. Bob spent considerable time in both of those rooms, learning pathology and eight ball, respectively.



He worked in the ER on weekends, often sharpening needles with a file. He also assisted in some surgeries and occasionally sat with dying patients. What he discovered from the experience was that he loved everything about being a doctor. And he also found that he and the patients communicated very well together. Some doctors, he noticed, didn't seem to have that facility.

In college, Bob had to study hard to make As and Bs and work hard to excel at swimming. But he set a conference record in the 200-meter breaststroke and won more often than not in diving competitions. As with high school, he had little time for a social life and says now that he regrets missing out on the fun that his classmates were having. "I didn't have much time nor money, but I was also pretty shy," Endres says.

When Bob finished his second year at Lacrosse, America's involvement in World War II was in its third year. At times, he worried about not serving

Bob and his wife, Esther, look through a book she wrote.





Endres loves working with his hands, and he's good at it; among other things, he has made a muzzle-loading derringer.

and thought he should enlist. But at the end of his second year, the government gave him the opportunity to finish his pre-med requirements at Cornell University if he could be accepted to a major medical school. After the University of Oklahoma medical school accepted him provisionally, he was in the Army studying pre-med at Cornell. It was harder at Cornell but he did fine and loved his time there.

The students were more of an amalgam of American society than anywhere he had been: black Baptists, New York City Jews, and a broad array of ethnic groups. He had dated a student named Joyce and he thought she could be the one for him. But his nine months at Cornell were up and no commitments were made; they talked about getting back together after the war.

Bob had completed three semesters of pre-med requirements during those nine months. He then reported to the OU medical school in September 1944. During that first year, the end to the war in

Europe seemed in sight, but not in the Pacific Theater. And while he was still bothered about not being in the war, the government obviously thought he would be worth more as a physician (serving in the Army) than as a grunt with a rifle.

He was immediately and totally immersed in the basic sciences. If Bob thought he had been studying hard at Cornell, he now believed it had been a playschool compared to this! Two memories of that year stand out. At the medical school gridiron, Endres played a diminutive professor named Ernest Lachman by kneeling behind the autopsy table, giving the illusion that he was standing up. Afterwards, Dr. Lachman complimented Endres on his performance and then asked if he had been on his knees. Endres answered yes. With an inscrutable smile, Lachman said: "Well, you will be the rest of the semester."

The other memorable event had a more lasting effect on Endres. He met a pretty young nursing student named Esther and within a short time, Bob wrote to Joyce that they wouldn't be getting back together. After a year of dating and a year-long engagement, Bob and Esther, a Quaker from Alva, were married in 1946.

Bob thoroughly enjoyed every clinical rotation and had several role models to learn from. One seemed to stand out as a virtually flawless physician: Ben Nicholson. "I wanted to be just like him," Endres said. The fact that Dr. Nicholson was a pediatrician was perhaps a harbinger of things to come.

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Having a sentimental side to him, Dr. Endres chose to do his internship ship at the hospital in Lacrosse where he had been an orderly. Although he wasn't as impoverished as before, he and Esther still periodically sold blood to help make ends meet. Endres learned a great deal that year, including a lesson in diplomacy. "There was this attending who had just been discharged as a colonel and he operated like we were all still in the Army," Endres recalls. "Very dogmatic. Ordering everybody about, treating us like a bunch of buck privates."

All the interns were grumbling and somehow Endres became their spokesman. "I told him we were unhappy and why. Well, it didn't go over too well and I got called before the hospital board to tell them why I shouldn't be kicked out of the internship program."

Fortunately for Endres, some of his colleagues spoke up for him and the incident blew over. He

would remember it years later in Tulsa when another young firebrand named Lancee Miller was going through the same thing at St. John. "I told him what had happened to me and urged him to apologize." As a member of the board, Endres also spoke in Miller's favor and he, too, survived.

Meanwhile, during Endres's internship, Bob and Esther's first child was born, Robert Otto Endres.

Endres couldn't wait to set up a practice. He and Esther folded down their Nash's back seat to make a bed/playpen for Bobby and they drove all over Oklahoma looking for the right location for Bob's general practice.

The Endreses were attracted to the lakes, rivers, forests, and hills of eastern Oklahoma. Several towns probably filled the bill but 70-something Dr. John Morrow of Sallisaw did the best job despite the absence of office space in town. Endres wound up using a 12 by 18 foot former diner for his office. After the counter was removed, a partition was erected on the concrete floor to divide the waiting room from the exam room.

About that time, it dawned on Dr. Endres that his medical training had been totally lacking in one way. He had only the most elementary idea about how to set up a practice. Fortunately, a medical supply sales representative who came calling helped Endres at least get some of the right equipment and supplies.

Much of his time was spent making house calls and it seemed like most of them were in hard-to-get-to places. Once he was summoned to see an old Cherokee woman who had suffered a stroke. She was living in an old boxcar near a dance ground surrounded by several brush arbors. Many of her people were there and though they seemed concerned, only one question was asked: Will she die? Endres said she might, especially if she wasn't hospitalized so that her condition could be stabilized. They considered this, paid Endres, and thanked him for coming.

After two years and \$4,000 in unpaid patient bills, Endres decided his future was not in Sallisaw. He would train to become a surgeon. He had always liked working with his hands and was good at it. Money, he says, was a minor consideration, although he was surprised to learn that a former classmate of his was getting \$150 for doing an appendectomy. Endres would have to see 75 office patients to earn that amount.

Just before Endres left Sallisaw bound for the Korean War, two of his elderly patients, Sam and Mary, stopped in to say goodbye. They presented him with six ears of corn bound with a red

ribbon. They said it was the custom of their people to give seed corn to a young man going to war so that when he returned he would be able to start his crops.

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**L**t. Robert Endres arrived in Inchon, Korea, in early 1951. It had been awful leaving his family, especially after there had been a new arrival, Susan. But he had an obligation to fulfill and duty to perform for his country and he was no different than any other soldier who had left behind a family.

Fighting was still going on, but only three months later a cease fire was negotiated. During that early period, Endres was busy but not in danger. Since he wanted to be where the action was, he requested reassignment, but was turned down. After the cease fire, Endres was less busy and in fact bored with the routine of battalion sanitation inspections and treating cases of V.D. and bacterial enteritis.

Then, he met Chaplain Leon Henry of Hugo, Oklahoma. The Baptist preacher wanted to do something for the large number of children in and around Inchon who had been orphaned by the war. He saw them every day wandering the streets begging, sleeping under bridges and in bombed-out buildings. At every Sunday service Chaplain Henry would pass the hat so that he could start an orphanage.

Henry wound up with two, one for 100 boys and another for 100 girls. He asked Endres if he'd stop around occasionally after hours to provide medical care. After Endres agreed, he discovered that the childrens' medical need was such that he would be spending more than just a few hours a week. All of their tummies were bloated with giant round worms (from their diet). They had vitamin deficiencies, infections, and pneumonias, and he didn't always have antibiotics. The conditions were adverse, to say the least, but the children were remarkably cheerful and fun to be around.

After his day job, Endres was at the orphanages up to several hours each day. "I made two other discoveries," Endres says. "I didn't know as much about treating kids as I thought I did. But even so, I really got a kick out of caring for them."

Endres served the second year of his hitch in Tokyo, where Esther and the kids were able to join him. He applied for and was accepted to pediatric residency programs in Boston, Houston, and St. Louis and chose the latter. At age 30, he

In Korea, Endres discovered, "I didn't know as much about treating kids as I thought I did. But even so, I really got a kick out of caring for them."



"I think the public is going to demand a return to a more viable physician-patient relationship. And it's still a great feeling when I'm out somewhere and someone I don't even recognize tells me how much I meant to them and their child."

began his training at St. Louis Children's Hospital in July 1953. He completed the residency two years later but stayed on for a one-year pediatric cardiology fellowship, figuring he would have something extra to offer. The training also gave him experience in research and, though he enjoyed it, he decided he would stick to doctoring.

During his two years in Sallisaw, Endres had learned a lot about how to be a good doctor. He also learned he was not a businessman, nor did he care to be. Therefore, it seemed the best practice situation for him would be a partnership administered by a business manager. Since he was going to practice in Oklahoma, preferably around family and friends, Tulsa and the Springer Clinic seemed to meet all his needs.

Endres was the eighteenth physician at the clinic, which was located downtown at 6th and Cincinnati. He thought all of his colleagues were fine physicians but that his fellow pediatrician Dick Russell had an ideal combination of academic training, creativity, lively intelligence, and a wonderful manner with his patients. Endres felt fortunate to be around such a man, and the feeling was reciprocated. "Bob is as good a physician as there is," Russell said.

Endres was the only pediatric cardiologist in Tulsa for his first year or so at the clinic, and his cardiology referrals held steady for a few years. But this specialty never comprised much more than five percent of his practice. As he says, he "covered the waterfront." In the late fifties and early sixties, there were almost no pediatric subspecialists in Tulsa. In addition to treating the common childhood illnesses, he also cared for premature infants and children who would almost surely die from leukemia.

He also came to have first-hand experience with a mentally retarded child, his second son, John. "When Johnnie was born he seemed fine, and I started photographing him for lectures I was giving on childhood development at Children's Medical Center. By the fourth month, I realized he wasn't up to that level and by his first birthday it was clear things weren't good. I took him to St. Louis, where I had trained, and they discovered that John is severely retarded."

His parents placed John in a facility for the mentally retarded and, except for weekends and holidays at home, he grew up there. During their early years in Tulsa, Bob and Esther also had two other children, Lynn and Lisa, and they and Bobby and Susan were raised much like their father had been. "I wasn't quite as strict as my dad, but he was my role model."

Similarities in upbringing also included the children spending every summer at Camp

Chippewa, where their grandfather Otto still presided over the ever-expanding facilities and program. Occasionally Bob would serve as camp doctor or recruit a colleague to serve. He also took his children on extended canoe trips up into Canada to escape what had become the heavy canoe traffic in Minnesota. The most recent trip was two weeks in 1981 with daughter Lisa.

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Because Endres had received good training in childhood diabetes during his residency, he felt competent, if not always comfortable, treating young diabetics. Since that made him *rara avis* in Tulsa, he began to get more and more referrals from the region, including parts of Kansas, Arkansas, and Missouri.

Although his practice was shifting increasingly toward diabetes by the early 1970s, Endres was still practicing general pediatrics. One day, internist Homer Ruprecht, hearing a couple of kids crying, asked Endres how he could stand being a pediatrician. "Homer, look at my patients," he said, grinning. "Every year they get more handsome, prettier, smarter, stronger... they improve in every way. Now, what happens to yours? And if I save a child's life, that kid is going to live another 60 to 80 years. What about your patients? When you look at value, I've got a much better practice than you do."

Ruprecht just shook his head. "I wouldn't be a pediatrician for anything," he said.

The Springer Clinic group kept increasing and a move from downtown was inevitable. Bill Warren, who made a fortune in the oil business, inveigled the partners to relocate across the street from his new hospital, St. Francis. About that time, the clinic partners' all-for-one and one-for-all philosophy was starting to break down. Some of them thought they should be making money proportionate to their billing. As pediatricians, Endres and four others were at the low end. "It just wasn't a pleasant environment anymore," Endres recalls. "So the five of us just pulled out in 1975 and set up the Children's Clinic of Tulsa."

The next decade was the happiest of Endres's career. OU's clinical branch, the Tulsa Medical College, had begun and Endres was clinical professor of pediatrics and chaired the faculty evaluation committee. He was Tulsa's preeminent pediatric diabetes specialist. While most pediatricians see less than a dozen cases of diabetes in their career, Endres had about 500 diabetic patients.

He started and staffed a summer camp for



diabetic children. At the two-week camp, the kids see that they are not alone with their affliction, get plenty of supportive diabetes education, and learn that they can meet challenges and achieve their goals.

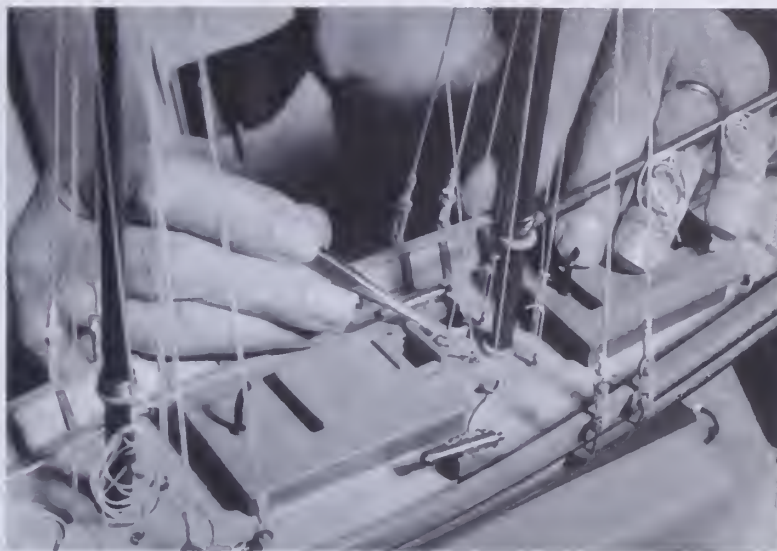
In 1980, Don Wilson came to town to develop the pediatric endocrinology service at Children's Medical Center. Mutually impressed, Bob and Don hit it off immediately and their zest and creativity made for many productive collaborations and adventures. Noting the success of Bob's summer camp, Wilson proposed a winter skiing camp in Colorado for older diabetic children and the two friends cooperated to make it happen.

Endres had been an unpaid director of diabetes education for St. Francis for several years, but in 1984 medical director Robert Tompkins asked Endres to create and run a formal program for the hospital. He was happy to do it because "diabetes is such a fascinating and challenging disorder. It has physical, chemical and emotional components and none of them can be ignored by the physician or the patient."

Endres melded his wealth of experience in dealing with patients and their parents with the experiences of others in diabetes education programs in other cities. He spent a month in Boston and in many ways, he said, it was an excellent program. "But they are very strict at the Jocelyn Clinic, he said. "'You're gonna do it this way or you're gonna die.' My job is to help the children resolve problems so that they can live with their disease. That calls for some flexibility within a rather rigid framework. They need to know the facts and be given all the tools to help them manage their illness."

As excellent as the St. Francis program had become, when Endres reached the hospital's retirement age in 1989, he was told he would have to retire. The word wasn't in his vocabulary. He was 66, but felt great. Even his father, Otto, now in his 90s, was still doing well, giving tennis lessons at Camp Chippewa. He and Don Wilson continued treating patients at Children's Medical Center until Wilson left in 1991 to practice in Corpus Christi. At that point, Endres realized that despite his good health and vigor, it would be better to go out while he was still practicing good medicine. He had known several physicians who "stayed too long." He stayed on until a new pediatric endocrinologist, David Jelly, arrived and got settled.

After his retirement, he thought he would putter around on his 40 acres about 20 miles from their house in Bixby. But at age 70, he certainly didn't feel like he thought he would when he was young and believed 70 was ancient. "I wasn't ready to



be put on an ice floe and shoved out into the current."

Perhaps that is why all of his framed awards and honors and plaques are stacked up on a shelf in a closet. He's not trying to impress nor live in the past.

That is why Endres found doing locum tenens so attractive. From February 1993 to spring 1995, Endres took 23 assignments, ranging from a few days to a few weeks. Despite the incredible hassles of obtaining a license in other states, Endres has practiced in five states. Usually Esther goes with him, such as when he substituted for a doctor for 10 days in a town in North Carolina, near Duke University where their son Robert is a molecular biochemist.

Locum tenens also gives Endres a bit more perspective on the current state of medical practice. "There can still be joy in practicing medicine, but there's less of it due to all the well-known infringements. And many younger physicians are too mercenary. Money and power corrupt."

Having said that and much more about all the perils on the profession, Endres resumes his characteristic optimism. "I think the public is going to demand a return to a more viable physician-patient relationship. And it's still a great feeling when I'm out somewhere and someone I don't even recognize tells me how much I meant to them and their child."

Most of the locum tenens assignments are for Tulsa area colleagues who want or need to be away for a few days. Endres has substituted for pediatric allergist Albert Brownlee several times. "Bob is the reason I went into pediatrics, Brownlee says. "He was the attending at Childrens Medical Center and I was so impressed by him. He is a fantastic

With skill and precision, Endres builds a model ship.

Bob and Esther  
enjoy quiet  
times together  
at their home  
in Bixby.



teacher; there is a warmth about him that set me at ease and gave me confidence. Now, all these years later, it is an honor to have him cover for me."

Certainly his colleagues don't embarrass him with such mushy talk to his face. But there are no such constraints on his former patients and their parents. When they see him, they are not shy about telling him how much they appreciate what he did for them.

Once not long ago, Endres was covering for a pediatrician in another state, and he saw a young diabetic who had been hospitalized repeatedly with ketoacidosis. He spent quite a bit of time talking with the boy's mother, who was on Medicaid. "Despite the fact that the boy had been seen by numerous doctors, his mother had little understanding of the disease or how to control it.

After that session, the mother thanked Endres and said she would take good care of her son. Before Endres left town, she came to give him a present, two pair of socks, and to tell him that she learned more from him in an hour than she had in the last few years, since her son had been diagnosed. The world for her had suddenly opened up.

Endres still has those socks. He probably wears them on special occasions. J

begun in 1981, the Leaders in Medicine series has recognized some of Oklahoma's most outstanding physicians. This is the twenty-eighth biography in the series.

Richard Green is a free-lance writer based in Oklahoma City and has been writing Leaders biographies since 1985.

Robert Taylor, an Oklahoma City-based photographer, has covered several Leaders stories for the JOURNAL.



### More on Annual Meeting

## Actions of this year's House of Delegates extend beyond resolutions

At its Annual Meeting in April, the OSMA House of Delegates, in addition to its disposition of resolutions as reported in the JOURNAL last month, voted to implement the following:

■ Recommendation that OMPAC work with the Council on State Legislation to develop for the full OSMA membership a legislative report that would show OMPAC's position and legislators' voting records on issues of special interest to physicians.

■ Appointment by President Larry Long of an interim Finance, Personnel, and Compensation Committee composed of five members selected from the OSMA Board of Trustees, one of whom is to be Secretary-Treasurer Carol Imes, for service until the committee becomes permanent.

■ Drafting of appropriate language by OSMA General Counsel Ed Kelsay to amend the OSMA bylaws to (1) change the name of the Hospital Medical Staff

Section to the Organized Medical Staff Section, and (2) delete the provision that OSMA membership is limited to residents of Oklahoma "who are citizens or who have filed declaration of intent to become citizens of the United States...." The language is to be submitted to the Board of Trustees and then to the 1996 OSMA House of Delegates for approval.

■ Recommendations of the Council on Professional and Public Relations to continue to produce the *OSMA News*, support the JOURNAL, support the VIP program, develop cooperative programs with specialty societies, continue producing the *Oklahoma Health Care Reform Update*, continue publicizing Oklahoma's living will, increase anti-tobacco education efforts to physicians and the public, produce radio and television public service announcements and infomercials as needed, produce pamphlets and brochures on medical or socioeconomic topics as needed, and

continue to serve as OSMA's liaison with the public and the media.

■ Recommendations of the Council on Public and Mental Health to continue interaction with the Oklahoma State Department of Health and Mental Health, OU College of Public Health, College of Medicine, Physicians Manpower Training Commission, and Oklahoma Health Care Authority; continue support to the Perinatal Task Force, Maternal Mortality Committee, and the Committee on HIV-Related Issues; continue to develop initiatives to alleviate the problem of access to medical care for the indigent and uninsured; continue to interface with the OSMA councils of State Legislation and Professional and Public Relations to achieve a smoke-free Oklahoma and work on other health issues; and work with the Tobacco-Free Oklahoma Coalition.

—SFR

## Board of Trustees meets in conjunction with Annual Meeting of House

Often lost in the bustle of OSMA's Annual Meeting, the quarterly meeting of the Board of Trustees took place on April 6, 1995, at OSMA headquarters in Oklahoma City.

At the beginning of the meeting, a motion was made, seconded, and approved to tape record the meeting as an aid in the preparation of accurate minutes, after which the tape is to be destroyed.

Secretary-Treasurer Carol Imes, MD,

stated in her report that at the end of 1994 the association had an excess of revenue over expenses of \$146,000. Compared to a smaller excess in 1993, and deficits in 1992 and 1991, this indicates that the association has been gradually improving its financial situation.

Dr. John C. Leatherman, Woodward family physician, was approved to serve out the unexpired term of District IV Trustee William T. Morris, MD, an orthopedic surgeon also from Woodward.

Mindy Schniederman, Office of Survey Research, AMA, presented a report on the membership survey conducted earlier this year. She noted that there was a 33% response rate and that 62% of OSMA members are in favor of unification. Dr. Gregory pointed out that the 1994 House of Delegates had asked that both members and non-members be surveyed, and that it was an oversight that the 800 to 900 non-members in the state were not included.

(continued)



## HEALTH DEPARTMENT

### AZT reduces HIV transmission from infected moms to their newborns



A recent study shows that the rates of HIV transmission from pregnant women to their newborn infants can be greatly reduced by treatment of mother and infant with zidovudine (also known as AZT or ZDV).

Preliminary findings from the AIDS Clinical Trials Group (ACTG) Protocol 076 sponsored by the National Institute of Child Health and Human Development indicate that zidovudine given orally to pregnant HIV-infected women after 14 weeks gestation until delivery, intravenously during labor, as well as orally to newborns for the first six weeks of life, results in a 68% decline in the risk of maternal-infant transmission. An independent monitoring board

advised early termination of the study in order to expand the treatment to both control and study groups of women.

In response to these data, the Public Health Service has requested that the ACTG 076 protocol be disseminated to physicians and other health care workers with the following recommendations. The protocol for prevention of HIV transmission from mothers to their infants includes: (1) oral administration of 100 mg ZDV five times daily, initiated at 14 to 34 weeks' gestation and continued for the remainder of the pregnancy; (2) during labor, intravenous administration of ZDV in a loading dose of 2 mg per kg body weight given over 1 hour, followed by continuous infusion of 1 mg per kg body weight per hour until delivery; and (3) oral administra-

### Trustees (continued)

Dr. Imes presented the report of the Finance Committee, thanking those who served with her: Drs. Jon Axton, David Harper, Richard Martin, W.F. Phelps, and David Selby. The board discussed and approved the following items, which are based on recommendations from the "Arthur Andersen Agreed-Upon Procedures Review of Internal Controls," dated January 1995:

- Limitation of OSMA corporate credit card use to corporate business only, with individual business expenses to be reimbursed by voucher with appropriate receipts attached for documentation for IRS-allowable expenses. Expenses must be reported within 30 days.

- A standard monthly allowance for OSMA executives to cover all automobile and related expenses, not to exceed \$600 per month, or an amount to be determined by the Finance Committee on an individual basis. The amount covers all existing OSMA automobile leases. The monthly allowance would be reported as taxable income to the individual employees who would then deduct the actual business-related expenses on their individual tax returns.

- Elimination of the executive director's personal expense account.

- Contracting with the Physician Recovery Program director and assistant director at a fixed rate that includes all business expenses. Consideration could

be given to adjust the compensation by an amount that would meet the average monthly business expenses (for the past three-year period).

- Referral of Physician Recovery Program loans to the Finance Committee to look into alternative management and report to the board at its next meeting.

- Adjustment of the OSMA Employees' Defined Benefit Pension Plan to comply with the IRS before August 1995.

- Review of alternatives, including annuities and other safe, conservative investments, to potentially pay the unfunded portion remaining for the frozen defined benefit pension plan.

- Encouragement of efforts by OSMA representatives to educate physicians of OSMA that Associate Director Lyle Kelsey is a licensed insurance agent who could save the organization a large amount if he were to become the agent of record for more physicians.

- Recommendation that the PLICO Board of Directors formulate a well-defined policy regarding insurance for directors (so that there is no question of working condition fringe benefits).

- Periodic reporting to the Board of Trustees of the actual income earned and expenses incurred related to loss control services so that the board can monitor the reasonableness of the amounts OSMA charges PLICO for performance of these services.

- Establishment of a standing Fi-

nance Committee to consist of the Secretary-Treasurer and several other members of the Board of Trustees, and establishment of an organizational chart to show the chain of command within the association; and the writing of a book of standard operating procedures for the organization, to include various personnel policies.

In addition to the audit recommendations, the following items were also approved:

- Recommendation to the House of Delegates that the OSMA president appoint appropriate individuals or make recommendations for individuals for the Oklahoma Legislature's Interim Study on nurse prescribing.

- Approval of a \$5,000 contribution from the OSMA to support the Trauma Mortality Study.

- Authorization for OSMA Executive Director David Bickham and Secretary-Treasurer Carol Imes to renegotiate with the Bank of Oklahoma to withdraw an additional \$200,000 for PROklahoma Care.

- Authorization for Mr. Bickham to decide how best to dispose of surplus furniture resulting from the recent office renovation.

- Instruction to the OSMA Council on Long Range Planning and Development to address the possible need of a management and organizational study of OSMA.

—SFR

## Health Department *(continued)*

tion of ZDV to the newborn (ZDV syrup at 2 mg per kg body weight per dose given every 6 hours) for the first 6 weeks of life, beginning 8 to 12 hours after birth.

The Public Health Service recommends that all health care workers providing care to pregnant women and women of childbearing age should be made aware of the results of the ACTG study. It also recommends that HIV-infected pregnant women meeting the protocol eligibility criteria should be informed of the potential benefits but unknown long-term risk of ZDV treatment as administered in Protocol 076, and that patients should be informed that the ACTG Protocol 076 substantially reduced, but did not eliminate, the risk of HIV transmission. Until the potential for teratogenicity can be assessed, ZDV therapy solely for the purpose of reducing the risk of maternal-fetal transmission should not be initiated earlier than 14 weeks' gestation.

Appropriate counseling and information about testing is important as almost all pregnant women who are well counseled choose to have HIV testing. Mandatory HIV testing could be a barrier to prenatal care for our most high-risk pregnan-

cies. The CDC has issued draft guidelines which reinforce these recommendations. If you would like information regarding training for HIV counseling, contact our HIV/STD Service at (405) 271-4636.

In Oklahoma, this mode of transmission represents a major public health problem, with approximately 20 infants born each year with HIV infections. With the support of this recent research, the use of zidovudine regimen during pregnancy may offer an opportunity to contain to some degree the ever-increasing incidence of maternal-to-infant transmission of HIV and the resulting tragic consequences.

## DEATHS

### Wiley T. McCollum, MD 1916 - 1995

OSMA Life Member Wiley T. McCollum, MD, died May 13, 1995, in Oklahoma City. He was born in Sherman, Okla., and raised in Waynoka. He completed his undergraduate degree at the University of Oklahoma and was graduated from the OU School of Medicine in 1940. After serving and internship and residency in Gallinger Municipal Hospital in Washington, D.C., he served three and a half years in the Pacific with the U.S. Army Medical Corps. He entered private practice in 1947, earning board certification in internal medicine in 1948 and in cardiovascular disease in 1954. He remained in active practice until 1983. He was featured as one of the JOURNAL's Leaders in Medicine in October 1994.

### John B. Miles, MD 1903 - 1995

Retired Anadarko physician John B. Miles, MD, died March 31, 1995. Dr. Miles earned his medical degree at the University of Oklahoma in 1927. He served his internship in Houston and was ship's surgeon for United Fruit Company out of New Orleans from 1928 to 1929. He worked as a family medicine resident in Ranger, Tex., from 1929 to 1932, when he moved to Anadarko. He maintained a family medicine and general surgery practice there until his retirement in 1977. During World War II he served in the China-Burma-India theater and remained in the National Guard after his discharge, retiring as a lieutenant colonel. The Edwardsville, Ill., native was named an OSMA Life Member in 1973.

## IN MEMORIAM

### 1994

Earl Mathews Woodson, MD	February 20
Tom Lamar Johnson, MD	March 5
Orville Main Rippy, MD	March 11
Minor Elliott Gordon, MD	March 14
George Loren Norris, MD	March 27
Max A. Glaze, MD	April 29
Winfred Aaron Showman, MD	May 14
Mark Daniel Holcomb, MD	June 1
Carter William Mathews, MD	June 3
Frank Wilson Clark, MD	June 6
Harold Ray Sanders, MD	June 15
Robert Bruce Howard, MD	June 16
Richard Warren Loy, MD	July 7
John Hobson Veazey, MD	July 11
Wesley A. Whittlesey, MD	July 12
Lawrence Sevier McAlister, MD	July 19
Jon Meyer Chenette, MD	August 4
Beryl Drew Henwood, MD	August 14
Jess Duval Herrmann, MD	August 16
John Xavier Blender, MD	October 5
John Patrick Skelly, MD	November 6
Jose J. Guijarro, MD	November 11
Haven Winslow Mankin, MD	November 14
Dalton Blue McInnis, MD	November 26

### 1995

Robert M. Wienecke, MD	January 3
Mason Russell Lyons, MD	January 6
Wallace Byrd, MD	January 25
Herbert Victor Lewis Sapper, MD	January 26
Addison Bowling Smith, MD	January 31
Clifford Jennings Blair, MD	February 10
John Richard Danstrom, MD	March 5
Othal Blair Cunyningham, MD	March 14
George S. Bozalis, MD	March 21
William Gerald Rogers, MD	March 21
Charles Wesley Letcher, MD	March 26
John Frederick Bolene, MD	March 27
John B. Miles, MD	March 31
Wiley T. McCollum, MD	May 13



## WORTH REPEATING

### More Medicare cuts will reduce access to care

*The following letter by Dr. S.A. Dean Drooby, Oklahoma City, was published in the April 18 issue of The Daily Oklahoman. Dr. Drooby is president of the Oklahoma Society of Internal Medicine (OSIM).*

When I went to medical school, I knew I'd be treating people from all different backgrounds. I relished the idea of caring for seniors because their cases tend to be more challenging and complex. But now the program largely responsible for my ability to care for seniors—Medicare—may not be around much longer. Experts agree that, without changes, the hospital side of the program will be bankrupt by 2001, and the outpatient side of Medicare is not in much better shape. As an internal medicine physician, I worry about what will

happen to my elderly patients if Congress enacts further cuts in the program. Congress will tell you that cuts will simply get rid of waste and fraud. I know better. I know firsthand the balancing act physicians face juggling the rewards in treating Medicare patients versus the realities of maintaining a practice. It is naive to think that continued cuts will not affect our seniors' access to care.

In 1989, we physicians supported reforms that included tough cost controls on physician fees. Two years ago, Congress enacted additional budget cuts—\$55 billion worth—to Medicare. Today, spending on physician services barely keeps pace with inflation. But because of the cuts Congress made, Medicare payments are falling further and further behind the payments that private insurers make to doctors. By

2003 Medicare payments are likely to be lower than they were in 1992. Assuming a 3 percent annual inflation rate, Medicare will pay physicians 33 percent less in 2003 than the program pays in 1995.

Since I can't cut my overhead—my rent, employees' salaries, utilities, equipment and supply costs—the cut comes from what Medicare compensates me for my work in taking care of Medicare patients. For every 15-minute office visit, I will make only \$10. Most plumbers and car mechanics make more than \$40 an hour!

Some in congress say the solution is to cut physician fees further! Further cuts are likely to result in Medicare paying less than my overhead cost for running my practice. My colleagues and I want to continue to treat Medicare patients. But with Medicare's payment rates already at little more than two-thirds of what the insurances in the pri-

(continued)



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vate sector pay—and falling—it is getting more and more difficult for us to do so.

"Some of my colleagues have already decided they can't afford to care for new Medicare patients. Some are choosing early retirement. Others are entering new practice arrangements with fewer Medicare patients. Those of us who have chosen to stick with our Medicare patients don't know how we'll be able to do it once fees barely cover our overhead.

Reforming—not cutting—the program is the only realistic option. This may require that seniors who can afford it pay more for their health care. Raising the minimum eligibility age and prioritizing available services would be another place to start.

Whatever the choice, let's begin now to ensure that Medicare is still viable tomorrow, next year and into the next century.

—S.A. Dean Drooby, MD  
Oklahoma City

## LETTERS

### Let the members vote

*To the Editor:* I do appreciate the forum of articles and letters as well as the clinical and medical information in the JOURNAL.

I am writing with a specific suggestion for the OSMA regarding decisions and voting.

I suggest that the voting of delegates be replaced with the voting of members.

Until members statewide are allowed the opportunity to vote, then there will continue to be problems associated with "representatives" voting at some times in some ways other than the wishes of the members.

—James W. Carley, MD  
Stillwater

### Industrialized medicine...

*To the Editor:* James S. Todd, the AMA executive vice-president said recently, "to date, no one has proved any one best way to deliver health care, and we have become a little bit tired of zealotry on both sides of the aisle" (*American Medical News*, March 27, 1995, p. 5).

Somehow Todd has missed the point, and his stewardship is warped in quite the wrong direction. In our opinion, the best way to practice medicine would be to have all physicians educated at government expense, and to have all doctors live permanently in hospitals, available at all times, and provided with room, board, laundry and Prozac. Unfortunately, medicine is still not an absolute calling; it is still a profession—although day by day it becomes closer to a job. Todd and the AMA have been actively failing to recognize that the AMA was, before Morris Fishbein, an organization of profes-

(continued)

## Poem sends Class of '95 on its way

*On June 6, Dr. Jerry B. Vannatta, professor of medicine at the University of Oklahoma College of Medicine, concluded his graduation address to the Class of 1995 with this poem.*

### CONCLUDING LESSON

Med school is over, this the last day.  
A class of young doctors going their way.  
So full of confidence, expectation and joy,  
The time has arrived, your skills to employ.

Interns endeavor to bring about hope,  
Attacking disease, struggling to cope.  
Whether surgery, medicine, pediatrics, or psych,  
Next year leisure time less than you like.

Hours grueling, the learning curve steep,  
Study, start lines, do procedures, not sleep.  
How to prepare for such an arduous task?  
In there something else the faculty asks?

The labor completed to earn the MD,  
Contemplate two words before you proceed.  
Osler offered the first in a speech,  
Wisdom shared as he continues to teach.

WORK, the open sesame, William declared,  
Brilliance without it, a gift laid bare,  
To youth it brings promise, to middle age pride,  
Medical advances are made in its stride.

No substitute for the second Coolidge proclaimed.  
Not genius, education, good grades, or fame.  
Calvin wrote PERSISTENCE will make you the best.  
Master these pearls before you rest.

Work hard, stay with it, is the wise man's advice.  
Be polite, do the right thing, and do it twice.  
Listen carefully, the whole story to gain,  
Empathize often with the patient in pain.

Concluding lesson for the class today,  
Might it inspire as you forge your way.  
Persistently work hard until journey's end.  
As a student, good-bye, and hello as a friend.

—Jerry B. Vannatta, MD  
April 1995

## Letters (continued)

sionals, and one of its purposes was to promote the professional well-being and independence of the physician. Fishbein changed all that; Sammons followed suite, and Todd could care less—as long as he has job security.

There have always been physicians who preferred to be salaried, and that's fine, as long as there is a viable option to it. The growth of HMOs and other managed "care" groups, however, is reaching monopolistic proportions, and those organizations have no dedication to physicians' well-being, or even the well-being of clients, as long as the latter receive sufficiently adequate service to continue buying the package. I am sorry if this zealotry on this side of the aisle is offensive to Todd, but he should be actively opposing the industrialization of medicine, not playing footsie with the GHAA and HCFA.

—George C. Manning, MD  
Fort Wayne, Ind.

## 'Leader' writes from Texas

*To the Editor:* It was so kind and thoughtful of the editorial board of the JOURNAL to present a feature article on my life ["The Commish Moves On," Feb. 1995]. I thank you very much.

I really enjoyed my working life in Oklahoma and especially being able to be of some service to the state.

Retirement is most enjoyable but I do miss my friends, and many of the activities. My years on the legislative council were particularly rewarding.

Again, thank you for the honor.

—Joan Leavitt  
Harlingen, Tex.

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The Department of Family Medicine, University of Oklahoma Health Sciences Center, announces a faculty search for Family Physician faculty members. Responsibilities vary between clinical practice, research and teaching of medical students and residents, and administrative responsibilities. This campus has directed a new emphasis toward Family Medicine which is reflected by both a new state of the art 68,000 square foot facility which houses the department and clinics and a computerized primary care medical record system. Successful candidates will be graduates of an accredited College of Medicine, possess or be eligible for an unrestricted Oklahoma Medical License, ABFP Board certified with at least two years of practice experience or fellowship training. Both clinical and tenure tracks are available. Women and minorities are strongly urged to apply. The University of Oklahoma is an Equal Opportunity Employer/Affirmative Action Employer. Please reply to Steve Crawford, M.D., Professor; Chairman, Search Committee, Department of Family Medicine, 900 N.E. 10th, Oklahoma City, OK 73104.

The Department of Family Medicine, University of Oklahoma Health Sciences Center, Enid, Oklahoma, announces a search for a Family Physician faculty member with interests in teaching, ambulatory research and promotion of family practice in rural settings. Successful candidates will be a graduate of an accredited College of Medicine, possess or be eligible for an unrestricted Oklahoma Medical License, ABFP Board certified or Board Eligible with a preferred background of 5 years in a private family practice setting. The faculty position is in the rural community based Family Practice Residency program in Enid, Oklahoma. The program has 12 residents in a 2 and 1 program. Duties include coordination of rural training projects, and maintaining patient, faculty and academic responsibilities. For further information contact J.M. Pontious, M.D., Program Director, OU/Enid Family Medicine, 620 S. Madison, Suite 304, Enid, Oklahoma 73701. For questions call (405) 242-1300; Fax - (405) 233-3721; Internet - PONT 102 W @ WONDER. EM. CDC.GOV. Excellent benefit package provided. The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer.

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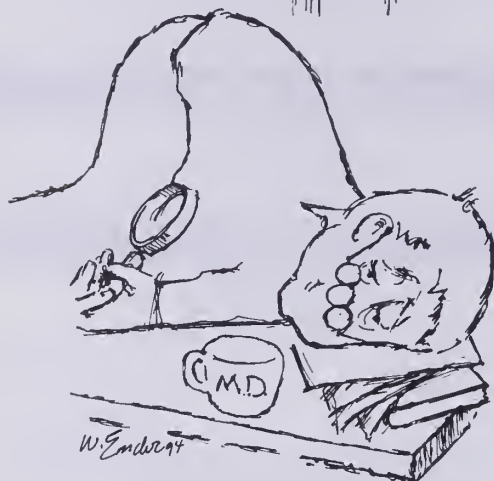
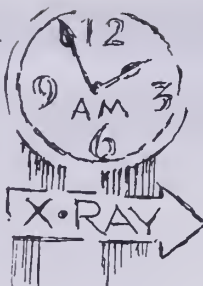
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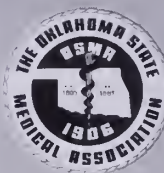
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## THE LAST WORD

■ **Glen Diacon, Jr., MD, a urological surgeon from Ada,** has been appointed to the State Board of Health. He will serve the remaining five years of the term previously held by Orange M. Welborn, MD, who resigned the post for health reasons. A 1986 graduate of the University of Oklahoma College of Medicine, Dr. Diacon will be eligible for reappointment at the end of the term. Physician members of the board are selected by the governor from a list of nominees supplied by the OSMA.

■ **Dr. Chester L. Bynum, new chair of the OSMA Board of Trustees,** is attempting to make board meetings more accessible by holding meetings at various sites across the state. The next meeting will be Sunday, July 9, 1995, in Muskogee (location to be announced). The fall meeting will be Sunday, October 29, 1995, at the Simmons Center in Duncan, and the winter meeting will be Sunday, January 21, 1996, at OSMA headquarters in Oklahoma City. The spring meeting, to be held in conjunction with the Annual Meeting of the OSMA House of Delegates, will be Thursday, April 25, 1996, at the Southern Hills Marriott in Tulsa.

■ **The Food and Drug Administration has approved over-the-counter marketing of famotidine,** a histamine H<sub>2</sub>-receptor antagonist used for relief and prevention of heartburn and acid indigestion. Pepcid® AC Acid Controller, a non-prescription strength (10 mg) formulation of the ulcer medication Pepcid® (famotidine 20 mg, 40 mg) is being promoted as "the first over-the-counter advancement for heartburn since the introduction of antacids more than 100 years ago and the largest brand in history to make the prescription-to-OCT switch." Pepcid AC is expected to become available nationwide this month.

■ **Call for Papers! "Uncertain Times: Preventing Illness, Promoting Wellness"** is the theme for the 1996 International Conference on Physician Health to be held February 7-10, 1996, at the Sheraton San Marcos Hotel in Chandler, Arizona. Presentations dealing with any aspect of physician health, including issues of well-being, impairment, disability, treatment, and education are welcome. Of particular interest are: stress and physician health; epidemiologic data; the effects of violence directed at physicians; violence occurring within physicians' families; patient exploitation; mental illness, including substance abuse; physical illness and disability; special populations; comparative data across states or countries; physician well-being and family functioning. For more information or to request an abstract submission form, call Elaine Tejcek at (312) 464-5066 or fax your inquiry to (312) 464-5841.

■ **Patients who receive active compression-decompression (ACD) cardiopulmonary resuscitation (CPR) instead of standard CPR** do not have better outcomes, according to a report


in the April 26 *Journal of the American Medical Association*. Researcher Theresa M. Schwab, MD, University of California, San Francisco, and colleagues conducted a study comparing the effectiveness of ACD CPR with a handheld suction device to standard manual CPR in victims of out-of-hospital cardiopulmonary arrest. The main outcome measures included return of spontaneous circulation, admission to the intensive care unit, survival to hospital discharge, and neurological function at hospital discharge. The findings contradicted previous research, which found ACD CPR to be more effective. The authors conclude that their findings indicate a lack of understanding of all the factors involved and also that they highlight the need for further study.

■ **The Oklahoma Poison Control Center (OPCC) has issued a statewide warning about misuse of energy enhancement/weight loss products which contain the potentially deadly chemical ephedrine.** Overdoses of the chemical, available over the counter, are becoming more widespread in the state and have been directly linked to several deaths across the country. Chemically, ephedrine is only slightly different from methamphetamine and is being used to make what amounts to legal "speed" or "crank." Ephedrine overdose symptoms can include heart arrhythmias, heart attack, stroke, seizures, and psychosis. Less severe symptoms include dizziness, headache, rapid heart rate, and gastrointestinal distress. Previously healthy young adults can be affected, as well as those who are biologically more susceptible, including heart patients, diabetics, and pregnant women. The drug can even cause physical symptoms at recommended dosage levels, according to an FDA statement.

Combined with caffeine, kola nut, guarana, or appetite suppressants such as phenylpropanolamine, ephedrine can produce deadly results. It also creates problems since it reacts with many common medications, including asthma, blood pressure, and anti-depressant medications. Under different names, ephedrine is included in many health foods, including some forms of the highly popular mineral supplement chromium picolinate. Herbal names to look for include "ma huang" and "ephedra."

Anyone with questions about ephedrine may call the OPCC at (405) 271-5454. Emergency calls should be directed to the center's toll-free hotline, 1-800-522-4611.

■ **"Contemporary Cardiothoracic Surgery" is the title of a CME program to be presented October 5-7, 1995, by the Washington University School of Medicine in St. Louis.** It will be held at the Ritz-Carlton Hotel in St. Louis. A second program, "Allergy Abroad '95" will be offered October 6-17 in Prague, Vienna, and Budapest. For details, contact the Office of Continuing Medical Education, Washington University School of Medicine, Campus Box 8063, 660 South Euclid Avenue, St. Louis, MO 63110-1093, 1-800-325-9862, or fax (314) 362-1087).



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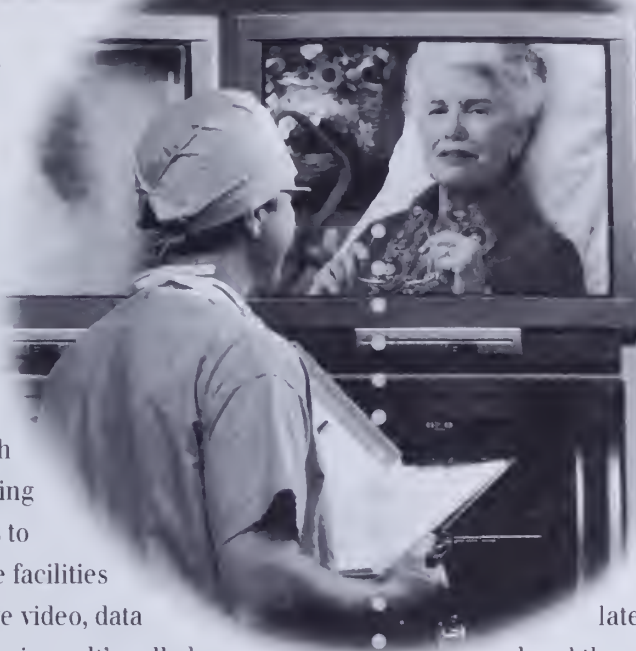
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# JOURNAL

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## ABOUT THE COVER

Oklahoma's longest night officially ended at dawn on the Fourth of July. Old Glory, at half staff since the April 19 bombing in Oklahoma City, was flying high once again.

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## "Don't Trust Anybody Over 30"

This motto of the youth of the American sixties generation is attributed to Jack Weinburg and has been repeated so often it has become the paranoid cliché of contemporary intergenerational distrust. And yet it has always been true in human affairs that the young and the old have different agendas, and therefore different styles of action. Truly, it is biologically innate and biologically necessary that discord between the generations be present in order for growth, independence, and the transfer of human cultural necessities to be fulfilled.

However, at the 1995 OSMA Annual Meeting, physician intergenerational discord seemed to rise to a new dimension and intensity. A spate of resolutions on the election process, term limitations, and qualifications for office signalled an incisive and integrated effort to reduce the presence of the Old Guard and increase the presence of the Young Turks. During the debate on the resolutions, both groups advanced provocative arguments in favor of both change and constancy. The debate made clear that younger members of our association feel excluded from important activities, while the older members believe in the value of practical experience.

The attitude of most older physicians on the transfer of "power" probably can be portrayed by John McCrae's line from the poem "In Flanders Fields": "To you from failing hands we throw the torch; be yours to hold it high." However, the spirited debate of the '95 Annual Meeting clearly shows there is a basic division of opinion on who has "failing hands" and on who can "hold it (the torch) high." The House of Delegates procedures, as always, clarified and refined the verbiage to those fundamental tenets that will move the OSMA along into the future. The principle result of the "revolt" was the future deletion of the Past Presidents' right to vote in the House of Delegates.

It has been said... "genius is not necessarily associated with wisdom," and this truism comes from the concept that everybody has value but nobody is omniscient. Also it seems

to us that the OSMA agenda is most likely to be fulfilled when managed by a melding of clear thinking, mature wisdom, ethics, and fervor. The OSMA House of Delegates as it presently functions is a near perfect mechanism to carry out this integration of diverse energy. We have great confidence in the problem-solving ability of any group of physicians who are aimed in a common pathway, and the collective wisdom of the House of Delegates is a sterling example of this capability.

Observing the actions of the House of Delegates over many years, it seems to us that voting patterns are not related to age. Very few retired physicians and Past Presidents attend the sessions of the House, except in designated official roles. The oldsters' votes, like the vote of the young, represent a wide spectrum of opinion. Neither clear thinking nor pure motivations are the unique attributes of either the young or the old. We hear excellent suggestions for projects and tactics coming from every component of the OSMA: old/young, female/male, generalist/specialist, urban/rural; any and all physicians may have good ideas to contribute to the solutions of OSMA problems.

The opportunity to serve and to gain experience should be available to every OSMA member who wishes, but the OSMA interaction with the world has grown so complex that there are some offices and positions in the OSMA that should have some pre-flight training. Noteworthy in this regard are the offices of Vice-President, President-Elect, and AMA Delegate. Also, PLICO Board members must learn to make decisions in a specialized field that requires knowledge not generally held.

Those of us who are young will be old soon enough, and those of us who are old will be gone soon enough that it ill-behooves any of us to waste energy fighting about age advantages—for either young or old.

...[T]here are some offices and positions in the OSMA that should have some pre-flight training.

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## This and That...

Some thoughts on the recent meeting of the American Medical Association:

■ Lonnie R. Bristow, MD, was inaugurated as the 150th president of the American Medical Association. Dr. Bristow is a private practicing internist from San Pablo, Calif. He has been active in the House of Delegates of the American Medical Association since 1978. Dr. Bristow enjoys a number of "firsts." He is the first African American to be elected president of the American Medical Association. Dr. Bristow is also the first specialty society president to serve as president of the American Medical Association, having served as president of the American Society of Internal Medicine.



■ I have strong admiration for our outgoing president, Dr. Robert McAfee. Dr. McAfee demonstrated to me a deep sense of fairness in serving as president. I particularly enjoyed the gentlemanly manner in which he dealt with matters. His unique sense of humor was a true asset. I think we will miss Dr. McAfee, but we certainly welcome and congratulate Dr. Bristow.

■ For those of you who saw the movie *The Fugitive*, the final scenes where Dr. Kimball confronts his evil colleague at the medical meeting were filmed in the Grand Ballroom of the Chicago Hilton and Towers Hotel. This is the room where the inauguration of Dr. Bristow was held. This was a special occasion for me because, as your president, I was allowed the privilege of serving as one of the association representatives. Each president was introduced individually and it indeed was a very special moment for me. For giving me that opportunity, I wish to thank all of you in the association.

■ In a very hotly contested race at the meeting, our Perry A. Lambird, MD, lost the election for the position of vice-speaker to John Knotte, MD. I think this was another demonstration of large state organizations making a significant difference by committing to one candidate or another. It certainly demonstrated to me that qualifications and experience are not necessarily qualities for electing an individual to a particular office. Dr. Lambird and all those individuals who worked so diligently and so long in his campaign represented Oklahoma extremely well. We are truly proud of Dr. Lambird and his efforts in this regard.

■ The universal response of all individuals, from the check-in clerk at the hotel to Dr. McAfee, to all of us from Oklahoma was truly profound and heartfelt. They were eager to ask if those of us from Oklahoma were okay with regard to the bombing of the federal building. To a person they expressed their deep concern and love and sympathy to all of us in Oklahoma who were directly or indirectly affected by that event. We truly were most appreciative of

the outpouring of concern and kindness from all those who responded in this manner.

■ The Colorado Delegation, in conjunction with the Rocky Mountain Caucus, held a reception as they do at each annual meeting and this year's reception was held on the 19th of June, the two-month anniversary of the bombing. The band which performed for the reception played a special selection in remembrance of that particular event.

■ I think we were all impressed by the cordial attitude and camaraderie that was demonstrated from all candidates for various offices at the meeting. In spite of some of the intense campaigns that were conducted, all the candidates were able to meet at each other's campaign receptions in a very gentle and harmonious way. This kind of mutual respect and regard among candidates was conspicuously noted. From a policy standpoint, I think there was a general recognition that the AMA Board of Trustees made a very specific point in defining a policy with which the House of Delegates could deal in an effective manner. I would call your attention to the House of Delegates Report 44, which outlines the AMA's position with regard to Medicare reform. I think it is a well-conceived and well-reported policy and one which members of the AMA can eagerly defend.

■ While we all missed our AMA Delegate John R. Alexander, MD, from Tulsa who was unable to attend the meeting, his absence allowed Ed Calhoun, MD, of Beaver, an opportunity to attend the meeting in his place and sit in the AMA House of Delegates for the last time. When the AMA Delegation Chair Jay A. Gregory, MD, announced that this would be Dr. Calhoun's final AMA meeting after twenty-five years of distinguished service, the House of Delegates rose spontaneously and gave Dr. Calhoun a standing ovation. This was a fitting tribute for a true giant of Oklahoma medicine.

■ The Oklahoma State Medical Association can be extremely proud of the new delegates and alternate delegates who were sent to Chicago. The new delegates, Gary Strebel, MD, Oklahoma City, and Boyd Whitlock, MD, Tulsa, were seated during this meeting. Three new alternate delegates attending their first meeting were J. Ross Vanhooser, MD, Enid; Greg Ratliff, MD, Tulsa; and William H. Hall, MD, Oklahoma City. All demonstrated a real talent for being eager to learn and were hard workers in going about the business of the House. I am convinced that the addition of these new delegates and alternate delegates to our already established delegation will make Oklahoma one of the more outstanding delegations to this particular meeting.

■ Finally, the "good news, bad news" aspect of the meeting was that Niemann Marcus, Bloomingdale's, and Saks were three to four miles from the hotel... And, by the way, there will be no dues increase for 1996.





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## Gastroschisis: A Birth Defect Seen in Increasing Numbers in Oklahoma?

Nikolo K. Puffinberger, MD; Denise V. Taylor, BSN; Rita J. Stevens; Dovid W. Tuggle, MD; William P. Tunell, MD

**Objective:** To identify if an actual increase in children born with gastroschisis is occurring in Oklahoma. To compare findings with historical and current literature concerning the incidence of this congenital malformation of the abdominal wall. **Data:** Derived from Children's Hospital of Oklahoma (CHO) medical records, inventory sheets completed by nurses and resident physicians on admission of gastroschisis infants at CHO, hospital records of Tulsa pediatric surgeons (Subromonia Jegathesan, MD, and Richard Ranne, MD), and the state health departments of Oklahoma and Iowa. **Findings:** 1. Increase in number of gastroschisis children born in Oklahoma. 2. Comparable findings in the state of Iowa. 3. No specific maternal or environmental factor to account for increase. **Conclusions:** Children born with gastroschisis in Oklahoma and other areas of the country, as well as internationally, have shown an increase in number over the past two decades. This increase cannot be attributed to any one identifiable factor.

In recent years, pediatric surgeons at Children's Hospital of Oklahoma (CHO) in Oklahoma City have seen an increase in the referral of patients with gastroschisis. Gastroschisis is an abdominal wall defect where the child is born with its intestines outside of the abdominal cavity. The abdominal wall defect is typically two to four

centimeters in diameter and usually to the right of the umbilical cord. Unlike omphalocele (another anterior wall defect of the newborn), the intestines are not covered with a membrane or sac from which the umbilical cord arises (Fig. 1). In gastroschisis, the exposed intestines are subjected to amniotic fluid during gestation which may result in thickening and shortening of the bowel.<sup>1</sup> This exposed intestine requires urgent surgical correction to preserve bowel integrity. It is hypothesized that gastroschisis is a result of a failure of vascularization of the abdominal wall, a local embryologic event; therefore, other anomalies are not associated with this defect.<sup>2</sup> What



Figure 1.

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predisposes the local embryologic event is unknown.

According to literature, the incidence of gastroschisis is 1 per 20,000 live births.<sup>3</sup> While only five cases of gastroschisis were reported in 1953, recent publications report an increased number of gastroschisis over the past two decades.<sup>5,6</sup> We were curious about this trend and noticed that CHO had an increased number of gastroschisis admissions over the past few years.

### Materials and Methods

In a five-year period from January 1989 through December 1993, 56 children in Oklahoma were born with gastroschisis and underwent surgical repair in either Tulsa or Oklahoma City. On admission to CHO, an anterior wall defect survey was completed on each child. Parameters derived from the survey included sex, race, maternal age, birth weight, birth order, prenatal care, maternal health, substance abuse, pregnancy complications, and hometown. Pediatric surgery nursing staff were contacted in Tulsa for their gastroschisis information. Tulsa nursing staff accessed hospital records and forwarded data to our office. CHO and Tulsa gastroschisis numbers are compared over the five-year interval and the state total tabulated (Table 1). In an attempt to compare the incidence of gastroschisis in Oklahoma with other states, we contacted neighboring state health departments. Unfortunately, none of our neighboring states currently has a birth defect registry in place and their health departments do not keep statistics on anterior wall defects. This limited our ability to compare regional data. However, statistics from Iowa were available and compared to Oklahoma statistics (Table 2).

Medical records of children born with an anterior wall defect during a previous five-year period, January 1977 through December 1981, at CHO were accessed. Total number of gastroschisis during this time period was compared with the 1989 through 1993 data. From 1977 through 1981, the majority of children born with an anterior wall defect were treated at CHO; therefore, we believe this number reflects an approximate statewide number for this time period.

CHO pediatric surgery inventory sheets concerning maternal habits and family history were accessed and summarized (Table 3). At the suggestion of the epidemiologist at the Oklahoma State Department of Health, the hometown of each child was examined to assess for any clustering effect which would imply an environmental agent as a possible etiologic factor for the occurrence of gastroschisis.

**Table 1. Gastroschisis Patients in Oklahoma 1989-1993**

Year	CHO	Tulsa	State
1989	6	1	7
1990	5	1	6
1991	7	8	15
1992	3	5	8
1993	11	9	20
<b>Total</b>	<b>32</b>	<b>24</b>	<b>56</b>

### Results

Data revealed a gradual increase in the number of infants with gastroschisis treated at both large Oklahoma metropolitan referral centers (Table 1). There were 24 cases of gastroschisis treated at CHO from 1977 through 1981. These data were compared with 56 cases of gastroschisis treated statewide from 1989 through 1993. The number of patients treated in Iowa over a five-year period did not vary significantly from Oklahoma. In addition, there was a similar distribution in race, sex, maternal age, and birth weights (Table 2).

Examination of the hometown of each child revealed no clustering of these children in any one state area or city (urban or rural). There were more Oklahoma City and Tulsa residents giving birth to a child with gastroschisis, but, based on the population of these cities, this was expected and did not meet statistical significance.

The most recent Oklahoma census reports 47,544 live births in Oklahoma in 1990. Based on this figure, the statewide incidence for gastroschisis in 1990 was approximately 1:8000. Assuming the live birth rate remains relatively stable (approximately 50,000), then the 1993 incidence increases to 1:2500 (Table 1). In addition, based on the 1990 census, the crude birth rate in Oklahoma has gradually dropped from 21.68 in 1960 to 14.29 in 1993.

### Discussion

There does appear to be a gradual increase in the incidence of gastroschisis in Oklahoma, based on our results of an increased number with a falling birth rate (Table 1), which also seems to correlate with totals from Iowa. While we did not obtain data prior to 1988 for comparison, Iowa did communicate an increase in gastroschisis defects being reported to their registry during the five-year period studied. In addition, reports from other countries have shown an increase in gastroschisis.

Many hypotheses have been studied to explain this increasing trend, such as environmental factors, maternal age, lack of prenatal care, and maternal habits.



**Table 2. Parameters Compared Between Iowa and Oklahoma**

	Total # Pts	Sex	Race	Maternal Age				Birth Wt (GMS)		
		M/F	Cauc/Other	12-19	20-29	30-39	>40	<1500	1500-2499	>2500
Iowa	57	30/27	53/4	13	38	3	3	11	21	25
Okla	56	29/27	49/7	18	35	3	0	6	22	28

sis births at their facilities over the past three decades.<sup>7-9</sup>

Many hypotheses have been studied to explain this increasing trend, such as environmental factors, maternal age, lack of prenatal care, and maternal habits.<sup>10</sup> We looked at the children's hometowns to see if this might lead to a possible environmental etiology from a certain geographic area. However, as previously stated, there was no clustering of children in any particular region.

A recent study in California noted an increase in gastroschisis births to younger mothers with a statewide incidence calculated to be 2:10,000.<sup>10</sup> In contrast, neither Oklahoma nor Iowa reported a higher number of gastroschisis births to younger mothers. The majority of the mothers in our study were in the average childbearing age from 20 through 29 years (Table 2). We did calculate an incidence of 1.68:10,000 gastroschisis births in Oklahoma in 1993.

Increased maternal substance abuse and lack of prenatal care have been implicated as possible causes of gastroschisis.<sup>10,11</sup> Several variables were considered when we reviewed maternal medical records (Table 3). Twenty-six (81%) mothers had only one variable present and six (19%) had more than one. Even though smoking has increased among young women, and in one study is associated with gastroschisis, 66% of our mothers did not smoke.<sup>12,13</sup> In addition, a recent study revealed no association with smoking in early pregnancy and gastroschisis.<sup>10</sup> Percentages were low for

ethanol use, drug abuse, prescription drug use, and sexually transmitted diseases; however, there was a tendency towards a lack of prenatal care. Previous reports do not identify any one variable as having sufficient impact on the incidence of gastroschisis.<sup>1</sup> Our data seem to support this hypothesis.

The majority of infants with gastroschisis in Oklahoma were born to primigravida mothers (75%). This is consistent with a study from Massachusetts which demonstrated a predominance of first-born children with gastroschisis. A review of several studies revealed that prematurity was a frequent finding (approximately 60%) and that most gastroschisis infants had low birth weights.<sup>4</sup> In Oklahoma and Iowa, however, not only did the majority of children weigh more than 1500 grams, most were term deliveries (Table 2). In Oklahoma, there is a predominance of gastroschisis born to Caucasian parents; however, this parallels the state's population.<sup>1</sup>

There are several possible explanations for an increased incidence of gastroschisis. It is felt by some that this abdominal wall defect was previously under-reported or misdiagnosed as a "ruptured" omphalocele.<sup>1</sup> It has also been stated that occasional cases may have been missed, even though we believe this is highly unlikely in this major condition of the newborn.<sup>4</sup> Another factor may be due to past hospital classification of anterior wall defects. Prior to the 9th edition of the ICD codes (1989), gastroschisis was not coded as a distinct entity from omphalocele and other anterior wall defects.<sup>14</sup> However, a spurt in reporting this defect can be seen emerging in the literature in the 1970s and is felt to correspond to an actual increase in incidence.<sup>4,13</sup>

It has been proposed that heterogeneity may play a role in the predisposition to having a child with gastroschisis. A recent study in California examined 127 family pedigrees for the presence of previous gastroschisis children.<sup>15</sup> Only six families (4.7%) had a previous family member affected. No family in our study could recall any family member being born with their intestines on the outside. The only response to our survey question regarding newborn abdominal surgery

**Table 3. CHO Maternal Factors  
Survey Results  
1989-1993**

History of:		
Cigarette use	11	(34%)
Illicit drug use	5	(16%)
Sexually transmitted disease	5	(16%)
Prescription drug use	8	(25%)
Ethanol use	5	(16%)
Positive more than one factor	6	(19%)
Pregnancy/birth complications	4	(13%)
No prenatal health care	21	(66%)
Primigravida mothers	24	(75%)
Total surveys completed	32	

seemed, by the history given, to be consistent with pyloric stenosis.

### Summary

The Oklahoma study appears to reflect an increased number of children seen with gastroschisis in our state. But, other than the tendency for the mothers of these children to be primigravida and to lack prenatal care, there was no apparent etiologic factor or factors to account for this increase.

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## Acute Relapsing Pancreatitis Induced with Ursodeoxycholic Acid Therapy

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A case of acute relapsing pancreatitis associated temporarily with the initiation of ursodeoxycholic acid occurring in a young adult woman with a long common channel connecting her biliary and pancreatic systems and Alagille's syndrome is reported. The attacks occurred only during the period she was being treated with ursodeoxycholic acid for her symptoms of pruritus. Liver transplantation with a Roux-en-Y choledochojejunostomy and discontinuation of ursodeoxycholic acid therapy has been followed by no additional attacks of pancreatitis whereas episodes of acute pancreatitis were occurring on a monthly basis prior to transplant.

Chronic cholestasis associated with bile duct paucity in infants can present either as part of a syndrome or as a nonsyndromic condition. Isolated non-syndromic bile duct paucity can occur as a result of an infectious process (rubella or cytomegalovirus), an abnormality of alpha-1-antitrypsin, or as a part of a syndrome associated with trisomy 21.<sup>1</sup> The best characterized syndromic form of bile duct paucity is Alagille's syndrome, which is also termed arteriohepatic dysplasia.<sup>2</sup> Features of Alagille's syndrome include the presence of a peculiar triangular facies, an ocular posterior embryotoxon, butterfly-shaped vertebrae, and peripheral pulmonary artery hy-

poplasia.<sup>2,3</sup> Not all of these features occur in each case.

Individuals with Alagille's syndrome frequently also manifest growth retardation and hypogonadism. The etiology of the growth retardation and hypogonadism is thought to be the result of malnutrition occurring as a consequence of malabsorption due to the combined effects of luminal bile salt and pancreatic enzyme deficiencies. The institution of pancreatic enzyme therapy leads to weight gain and often the initiation of puberty in children with Alagille's syndrome.<sup>4</sup> The etiology of pancreatic insufficiency in Alagille's syndrome may be, in part, a result of hypoplasia of the pancreas or, more likely, a defect in pancreatic enzyme activation within the intestinal lumen.

Herein reported is a case of acute relapsing pancreatitis occurring in an individual with Alagille's syndrome. The onset of the pancreatitis was associated with the initiation of ursodeoxycholic acid therapy, which was instituted to reduce her symptom of pruritus.

### Case Report

This 22-year-old white woman with Alagille's syndrome was referred to the hospital for evaluation of end-stage liver disease and possible liver transplantation. Her younger brother also had Alagille's syndrome and died during an attempted liver transplant operation at another institution several years earlier.

At the time of her evaluation, she complained of fatigue, pruritus, mental irritability, and decreased appetite. All of these symptoms had been

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**Table 1.**  
**Laboratory Data Available in the Case Presented**

Dates	5/10/93	12/19/93	3/13/93	4/8/94	5/19/94	Units	Normal
Episode #	1	2	3	4	5		
Hg	12.1	12.3	12.1	11.1	12.1	Gm/dl	11-15
HCT	35	35.1	34.9	32.9	37	%	34-35
WBC	5	8.9	5.3	4.2	5.1	TH/mm	4-10.4
Neutrophil	45	70	N/A	63.6	69.3	%	34-70
Lymphocyte	34	20	N/A	25.7	21.0	%	23-48
No	143	139	140	137	138	Meq/dl	136-145
K	5	3.8	3.9	4.5	3.9	Meq/dl	3.5-4.8
BUN	12	15	13	6	9	Mg/dl	5-26
Cr	0.5	0.6	0.6	0.6	0.6	Mg/dl	0.5-1.5
T. Bili	5.2	5.2	4.3	4.3	3.1	Mg/dl	0.4-1.5
D. Bili	1.9	N/A	2.7	2.7	1.8	Mg/dl	0-0.4
T. Protein	6.2	6.2	6.3	6.3	5.8	Gm/dl	6-8
Albumin	3.7	3.7	3.4	3.4	3.2	Gm/dl	3.5-5
A. Phos	465	465	460	460	405	MU/ml	40-130
LDH	158	N/A	N/A	167	68	MU/ml	80-200
SGOT	93	N/A	86	86	71	MU/ml	12-37
SGPT	60	N/A	55	55	47	MU/ml	7-40
GGPT	26	N/A	25	25	24	MU/ml	5-45
Amylase	47	688	338	816	103	U/l	40-160
Lipase	N/A	194	153	266	43	U/l	4-24

N/A - not available

present for many years and had slowly, albeit progressively, increased in intensity. Her past medical history included a seizure disorder. Her physical examination was significant for markedly thickened skin with diffuse hypopigmentation and extensive excoriations, jaundice, a prominent forehead, deep set eyes, and a peculiar triangular facies. Her liver was palpable one finger breadth below the right costal margin. Her spleen was not palpable. She had ascites and peripheral edema.

Her laboratory data are summarized in Table 1. A CT scan of her abdomen revealed a liver volume of 1813 cc (nl 1,000-1,500) and a spleen volume of 559 cc (nl 150). Her vertebral bone density was calculated at 120.6 mg/cc (nl 183  $\pm$  25; age adjusted). She had no clinical evidence for pulmonary arterial hypertension and no endoscopic evidence for portal hypertension. A liver biopsy demonstrated an active cirrhosis and bile duct paucity. Due to her severe pruritus, she was placed on ursodeoxycholic acid (300 mg orally administered two times a day) in May 1993.

In December 1993, she was admitted to the hospital with a new complaint of sharp upper abdominal pain which radiated to her back. An ultrasound examination of her abdomen revealed hydrops of the gallbladder. As a result of this finding, she underwent a laparoscopic cholecystec-

tomy. An intraoperative cholangiogram revealed normal intrahepatic bile ducts. She had a similar attack of abdominal pain in January 1994. Again her amylase and lipase levels were documented to be elevated (Table 1). At this time, a CT scan of her abdomen revealed a prominent head of the pancreas with surrounding edema. She was managed conservatively with a resolution of her clinical and radiologic pancreatitis. Subsequently, she had three additional attacks of pancreatitis occurring in March, April, and May 1994. In April 1994, an endoscopic retrograde cholangiopancreatography (ERCP) revealed a dilated pancreatic duct and dilated bile ducts with a long common channel (Fig. A). A rapid infusion CT scan of the abdomen was obtained and demonstrated a heterogeneity of the head of the pancreas. Because of these findings, the patient underwent an endoscopic sphincterotomy on August 5, 1994. One day later, she underwent an orthotopic liver transplant with a Roux-en-Y choledochojejunostomy as the biliary drainage. She has had a subsequent uneventful postoperative course and, to date, has had no additional attacks of pancreatitis.

### Discussion

The two most common causes of acute pancreatitis are obstruction of the common bile duct, usually as a consequence of gallstones, and al-

cohol abuse.<sup>6</sup> Other less common causes include a choledochal cyst, migration of ascariasis into and out of the biliary system, pancreatic carcinoma, a hypertensive sphincter of Oddi, and the presence of a pancreas divisum.<sup>6</sup> In pancreas divisum, a stenosis of the accessory duct orifice is proposed as the mechanism responsible for episodes of recurring pancreatitis. Stenting the accessory papilla interrupts the frequency of the recurrent episodes of pancreatitis in such cases.<sup>7</sup> Nonobstructive causes of acute and chronic relapsing pancreatitis are exposure to various toxins and drugs, trauma, various metabolic disorders, and local infection.<sup>6</sup>

The etiology of acute pancreatitis not related to either gallstone disease or alcohol abuse remains obscure despite an extensive study and accounts for 10% of all cases.<sup>6</sup> Thus, idiopathic acute pancreatitis is reported to be the third most common cause of pancreatitis after gallstone disease and ethanol-induced pancreatitis. Recently, 17 of 116 patients with idiopathic pancreatitis were reported to have an elevated basal sphincter of Oddi pressure.<sup>8</sup> The majority (16 of 17) experienced a resolution of their symptoms following a sphincterotomy.<sup>8</sup>

The pathogenesis of gallstone-induced pancreatitis is thought to be due to bile reflux into the pancreas as a result of a common channel connecting the biliary tree and pancreatic ducts, a theory originally proposed by Opej.<sup>9</sup> In 80% of cases of acute pancreatitis, a common channel of variable length can be shown to exist.<sup>10</sup>

The only medical therapy available for patients with Alagille's syndrome is ursodeoxycholic acid. This agent has been reported to be effective in reducing the jaundice and pruritus in 84% of cases.<sup>11</sup> Ursodeoxycholic acid is a hydrophilic bile acid which prevents continued hepatic injury by displacing toxic hydrophobic bile acids from hepatocellular membranes.<sup>12,13</sup> It also increases bile flow by increasing water and bicarbonate secretion.<sup>14</sup>

The present case is the first case wherein recurrent attacks of acute pancreatitis have been induced in a patient with Alagille's syndrome as a result of the use of ursodeoxycholic acid used to reduce the symptom of pruritus. It is proposed that the presence of a long common channel and increased bile flow induced by ursodeoxycholic acid leads to the reflux of bile into the pancreatic duct producing a form of recurrent chemical-induced pancreatitis. Consistent with this hypothesis is the fact that the distal sphincter of Oddi resistance is greater than the resistance provided by its more proximal pancreatic duct component.

In order to overcome this problem, a distal sphincterotomy was performed. The effect of the sphincterotomy could not be evaluated fully in this case because the patient underwent a liver transplant the very next day when an appropriate liver donor became available, and a Roux-en-Y choledochojunostomy biliary drainage was created during her liver transplant procedure. However, the patient has had an uneventful postoperative course. Notably, she has not experienced any subsequent attacks of acute pancreatitis. Moreover, she had no other predisposing factor for pancreatitis and never received any medications during her multiple hospital admissions, other than ursodeoxycholic acid, which are known to be causative agents of pancreatitis.

In summary, the sequence of events in the course of this patient's history and management suggest that the patient's long common channel coupled with the institution of ursodeoxycholic acid therapy produced a situation where bile acid refluxed into the pancreas causing recurrent episodes of acute pancreatitis. It was anticipated that a sphincterotomy would prevent subsequent episodes of pancreatitis. This therapeutic procedure was utilized but its effect could not be evaluated fully because the patient underwent a liver transplant with construction of a Roux-en-Y choledochojunostomy the day after the sphincterotomy. Following her liver transplant and the discontinuation of ursodeoxycholic acid, no subsequent episodes of acute pancreatitis have occurred.

The two most common causes of acute pancreatitis are obstruction of the common bile duct, usually as a consequence of gallstones, and alcohol abuse.

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## Panhypopituitarism in Two Cirrhotics: Clinical Presentation and Liver Disease Associations

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Two cases of panhypopituitarism occurring in cirrhotic patients with chronic hepatitis C, hemochromatosis and in the second case,  $\alpha$ 1-antitrypsin deficiency with phenotype SS. The hypopituitarism was most probably a result of pregnancy-associated pituitary infection in Case 1 and spontaneous infection of a somatotrophic pituitary adenoma in Case 2. Both cases experienced complications related to salt and water excretion, cardiac arrhythmia, and encephalopathy related to the pituitary disease that was initially ascribed to their hepatic disease. These two cases demonstrate the difficulty one can have in caring for patients with advanced liver disease with confounding endocrine dysfunction.

**H**ypopituitarism whether complete or incomplete is a rare finding in patients with clinically advanced liver disease.<sup>1,2</sup> Thus, its occurrence in a patient referred for liver transplantation is rarely considered and as a result can go unrecognized. Herein are reported two patients seen at a liver transplant center who, at the time of referral, had unrecognized panhypopituitarism and hemochromatosis. The hypopituitarism in both cases amplified the clinical signs and symptoms of hepatic decompensation and complicated the pre-transplant evaluation of both until recognized and treated.

### Case Reports

**Patient 1.**—This 53-year-old Saudi Arabian female was referred for liver transplantation in June 1993 with a diagnosis of cirrhosis due to chronic hepatitis C. Her past medical history was positive for Barrett's esophagitis, a cholecystectomy, recurrent episodes of upper gastrointestinal bleeding from an unidentified source(s), Raynaud's phenomenon, a sicca syndrome (dry eyes and mouth), and several years of progressive fatigue and inertia. She had ascites, moderate hepatic encephalopathy (grade 2), hypoprote thrombinemia (15.3 sec.), and hypoalbuminemia (3.3 g/dl). She was amenorrheic for 10 years and had had 10 children. She had been recognized as being hypothyroid for almost 10 years and was on thyroid replacement at the time of presentation. The clinical and laboratory data relating to her disease are shown in Table 1.

All attempts at diuresis were complicated repeatedly by a supraventricular tachycardia, azotemia, and clinical hypotension with an unmeasurable blood pressure. Because of her tachycardia, she underwent an extensive cardiac evaluation that documented the findings reported in Table 2. These consist of a reduced stroke volume, low cardiac output, and radiologic evidence of cardiomegaly. Because of unexplained recurring episodes of hypotension and her inability to mobilize water, she underwent an acute intravenous ACTH stimulation test (synthetic ACTH 1-24) which was abnormal. Her basal serum cortisol level was 7.6  $\mu$ g/dl. It failed to increase in response to the bolus of synthetic ACTH being 7.8  $\mu$ g/dl 30 minutes after the administration of the

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0.25 mg bolus of synthetic ACTH 1-24. Based upon this finding, hypoadrenalism and the possibility of hypopituitarism were considered and confirmed on the basis of serum gonadotropin, prolactin, and

growth hormone levels (Table 3). The findings of an MRI of the head with specific attention being given to the sella turcica demonstrated an empty sella.

With the addition of prednisone (7.5 mg/day) and fludrocortisone acetate (0.1 mg daily), her blood pressure, postural hypotension, ascites, peripheral edema, and encephalopathy all improved.

She underwent a complicated orthotopic liver transplantation on February 23, 1994. The liver that was removed was small and nodular, having a weight of 731 g and a micronodular appearance. A histologic evaluation confirmed the finding of a micronodular cirrhosis and, in addition, demonstrated a diffuse panlobular hepatic iron overload state (hemochromatosis) (hepatic iron content 6,344  $\mu\text{g/g}$  dry weight). The calculated hepatic iron index was 2.1 (values greater than 1.9 being consistent with a diagnosis of hemochromatosis).<sup>3</sup>

Her postoperative course was complicated by recurrent episodes of supraventricular tachycardia and a Roux-en-Y leak that required additional surgery including a partial pancreatectomy. The removed pancreas demonstrated an iron load state with appropriate histochemical staining. Gradually, she recovered and currently is awaiting hospital discharge on tacrolimus, prednisone, and l-thyroxine.

**Patient 2.**—This 47-year-old white male was self-referred for possible liver transplantation in March 1994. He had been rejected as a liver transplant candidate one year earlier by another large transplant center. He gave a history of being anti-HCV positive as well as HBCAb positive, having insulin-dependent diabetes mellitus and having had a mesocaval shunt performed four years earlier following an episode of gross hematemesis. Six years before the mesocaval shunt procedure, he had had an esophageal transection and devascularization procedure.

He gave a history of ascites and anasarca for several years. Over the immediate preceding four months, he had experienced three episodes of advanced hepatic encephalopathy, each of which necessitated hospitalization.

On physical examination, he was 5'9" tall and weighed 301 lbs. He had anasarca with 4+ pitting edema of his legs and massive ascites. He had a small phallus, bilaterally soft but not excessively small testes, no scrotal wrinkling, and soft fine facial skin. His affect was flat. His physical appearance was positive for a wide forehead with frontal bossing, fine soft skin, a large jaw, as well as large hands and feet (Fig. 1). The results of his

**Table 1.**  
**Liver Disease Characteristics of the Two Patients**

Parameter (units)	Case 1	Case 2	Normal Values
Age (years)	53	47	NA*
Gender (m/f)	F	M	NA
HCV-RNA (+/-)	+	+	Negative
HBV-DNA (+/-)	-	-	Negative
HBCAb (+/-)	-	+	Negative
Hemoglobin (g/dl)	11.0	13.3	13-18
WBC (cells/mm <sup>3</sup> x 10 <sup>3</sup> )	4.1	6.3	4.5-10.0 x 10 <sup>3</sup>
Platelets (cells/mm <sup>3</sup> x 10 <sup>3</sup> )	75	130	150-300 x 10 <sup>3</sup>
ALT (IU/l)	128	62	<32
AST (IU/l)	136	122	<32
Alkaline Phosphatase (IU/l)	150	99	to 125
Gamma-Glutamyl Transpeptidase (IU/l)	30	42	10-70
Total Bilirubin (mg/dl)	3.2	3.2	<1.2
Prothrombin Time (sec)	15.3	14.4	<1.3
Albumin (g/l)	3.3	2.2	3.5-5.0
Globulin (g/l)	3.6	2.5	6
Iron ( $\mu\text{g/ml}$ )	203	117	35-171
TIBC ( $\mu\text{g/ml}$ )	214	128	221-481
% Saturation	94	91	<65
Ferritin (ng/ml)	1440	316	7.4-339
$\alpha$ -Antitrypsin level (mg/dl)	125	78	85-215
$\alpha$ -Antitrypsin Phenotype	MM	SS	MM
HLA antigens	A 11, 26 B 13, 55 Dr 7, 13	A 26, 29 B 44, 60 Dr 7	NA
Esophageal varices (0 - 4+)	3+	2+	Negative
Gastric varices (0 - 4+)	1+	1+	Negative
Partial hypertensive gastropathy (0 - 4+)	3+	S/P Mesocaval Shunt	Negative
Hepatic encephalopathy (0-4+)	2+4+	Negative	
Ascites (0 -4+)	3+	4+	Negative
Cryoglobulins (+/-)	+	+	Negative
ANA (titer)	40	-	Negative
Anti-mitochondria Ab (titer)	0	-	Negative
Anti-LKM (titer)	0	0	Negative
CT Liver Volume (cc)	731	1029	1040 -1550
Hepatic Iron ( $\mu\text{g/g}$ dry weight)	6344	5373	600-1100
HII	2.1	2.0	<1.9
Fasting chalytglycine ( $\mu\text{g/dl}$ )	254	425	<68
BUN (mg/dl)	13	11	10 -20
Cholesterol (mg/dl)	96	105	150 - 240
Spleen volume (cc)	250	255	<150 cc
$\alpha$ -fetoprotein (ng/ml)	<4.5	<4.5	<4.5
Hepatic Diagnosis	HCV & hemochromatosis	HCV $\alpha$ 1-antitrypsin deficiency and hemochromatosis	NA

\*Not applicable

hepatic evaluation are shown in Table 1. Because of his anasarca and the difficulty experienced in mobilizing his edema, he underwent an evaluation for thyroid and adrenal insufficiency and was found to have evidence for both as reported in Table 3. As a result of these studies, he was placed on adrenal, thyroid, and gonadal hormonal replacement.

Because of the cardiovascular problems experienced with Patient 1, this patient was subjected to the cardiac evaluations reported in Table 2.

On April 26, 1994, he underwent an uneventful orthotopic liver transplantation. The liver that was removed weighed 917 g and stained 4+ positive for iron in both hepatocytes and bile ductular cells. The hepatic iron content of his excised liver was 5,373 µg/g dry weight. The calculated hepatic iron index was 2.0. His postoperative course was complicated by difficulty controlling his diabetes mellitus, cardiac failure progressing to severe congestive heart failure necessitating admission to the intensive care unit, reintubation, and the use of high doses of intravenous diuretics. Subsequently, he developed a CMV infection necessitating treatment consisting of 14 days of ganciclovir. Ultimately, he did well and was discharged home on June 1, 1994.

## Discussion

Both of these patients had unrecognized hemochromatosis and panhypopituitarism manifested by hypogonadotropic hypogonadism as well as thyroid and adrenal insufficiency. The second case

Table 2. Cardiac Evaluations Obtained on the Two Patients		
Study	Patient 1	Patient 2
Heart rate	71	67
LVEF (%)	50.5	42.8
LVEDV (cc)	130.2	203
LVESV	65.8	87
SV (cc)	64.5	116
CO (l/min)	4.6	7.7
CI (l/min. m <sup>2</sup> )	2.8	3.5
Coronary angiogram	Normal	ND*
Left ventriculogram	Normal	ND
CXR	Cardiomegaly	Cardiomegaly
Echocardiogram	Normal	LAE, mild MR, mild TR+
Thallium Study	Normal	Normal

\*ND = Not Done  
+ = LAE - left atrial enlargement  
MR - mitral regurgitation  
TR - tricuspid regurgitation

also had  $\alpha$ 1-antitrypsin deficiency with an SS phenotype.

It is of some interest to note that both cases also had a chronic hepatitis C infection. This latter situation as well as hepatitis B appear to be more common in individuals with hepatic iron overload states such as hemochromatosis, porphyria cutanea tarda, and thalassemia.<sup>4-10</sup>

The unrecognized hypopituitarism was responsible for the flat affect manifested by both which was misidentified initially as being a consequence of hepatic encephalopathy. It also contributed substantially to the ascites and anasarca both patients manifested as well as the difficulty experienced in trying to mobilize the excess salt and water in



Figure 1. Photographs of patient described as Case 2 at age 19 years (left), age 30 (middle), and age 47 years (right). Note the acromegaly in the two figures on the left.



Table 3. Evidence for Hypopituitarism in the 2 Patients

Parameter (units)	Case 1	Case 2	Normal Values
FSH (mIU/ml)	<1	1.7	$\frac{34.4-95.8 \text{ } \sigma/\delta}{0.9-15.0 \text{ } \delta}$
LH (IU/l)	4.7	0.8	1.25-7.80 $\delta$
Testosterone (ng/dl)	NA	86	225-900
Estradiol (pg/ml)	<50	<50	40-200
T4	8.4 (an Rx)	3.4	4.5-12.0
Growth hormone (ng/ml)	0.9	0.9	<8.0
Prolactin (ng/ml)	4.7	11.4	3-30
TSH (mIU/ml)	1.5 (an Rx)	0.13	0.2-4.0
Cortisol ( $\mu$ g/dl)	7.6	5.6	7-25
ACTH	10	12	9-52
Cortrosyn Stimulation Test	6.5-76.8 Inadequate	9.9-10.2 Inadequate	Normal >8 increase
LHRH Response	Negative	Negative	2-3 fold increase
Blood pressure (sitting/standing)	90/60; 70/40	125/80; 115/75	100-140; 60-90
Pulse (beats/min)	65	72	60-100
Findings of an MRI of the head	Cortical atrophy empty sella turcica	Cortical atrophy	Normal
Bone Density (mg/cc) (pt/age matched control)	80/160	NA*	Age adjusted
Renal resistance index	.77	.72	<.60

\*Not available

each case until adequate thyroid and adrenal replacement had been initiated.<sup>11,12</sup>

The hypopituitarism in Case 1 could have been a manifestation of either the hemochromatosis or an unrecognized pituitary apoplexy experienced after the birth of her 10th child.<sup>13-25</sup> This pregnancy was followed by a premature "menopause" characterized by subsequent amenorrhea. On MRI 10 years later, she had an empty sella which is consistent with the diagnosis of an earlier pituitary apoplexy which is a well-recognized, albeit rare, consequence of pregnancy.<sup>13-17, 22, 23</sup>

The hypopituitarism in Case 2, like that in Case 1, could have been the result of hemochromatosis but could also have been a consequence of prior unrecognized pituitary apoplexy. As shown in Figure 1, this individual had acromegaloïd facial characteristics that were manifested also by his

hands and feet. He gave a history of chronic headaches for more than 10 years and at the time of presentation had the facies of an individual with acromegaly but the skin and genitalia of an individual with acquired hypogonadotropic hypogonadism. Thus, it is not unlikely that he had an eosinophilic somatotrophic pituitary adenoma that accounted for his acromegaloïd appearance that infarcted, leading to a confounding hypogonadism and other pituitary gland deficiencies.<sup>13-17</sup> Whether his hypoprothrombinemia, thrombocytopenia, diabetes mellitus, prior episodes of gastrointestinal hemorrhage, and even his iron overload state contributed to the pan-anterior pituitary deficiency syndrome is unclear but each is a possible cause for pituitary apoplexy.<sup>13-17, 23-25</sup> It is known that pituitary adenomas have a 5.4 times greater incidence of spontaneous hemorrhage as compared

**Table 4.**  
**Disease Confounds Produced as a Result of**  
**Hypopituitarism and Hemochromatosis**

Cardiomyopathy  
Hypertension  
Inability to increase cardiac output  
Diuretic resistant ascites  
Anasarca  
Encephalopathy  
Osteoporosis  
Renal hypoperfusion  
Diabetes mellitus  
Autonomic neuropathy  
Peripheral neuropathy

to other CNS tumors<sup>23</sup> and can spontaneously bleed leading to necrosis and hypopituitarism in 9.5% to 15.8% of cases.<sup>13-17,18,23,26-29</sup> His co-existent hemochromatosis and diabetes mellitus may have increased his risk for pituitary apoplexy even more than the 5.4-fold risk associated with the presence of a pre-existing somatotrophic hormone secreting pituitary adenoma.<sup>18-29</sup>

The probability that an occult pituitary apoplexy accounts for the panhypopituitarism in these two patients rather than the hemochromatosis that both experienced is based upon the observation that although hypogonadism is a relatively frequent consequence of hemochromatosis, adrenal and thyroid deficiency states are not<sup>1,2,30-39</sup> but both occur in cases of pituitary apoplexy at rates of 67% and 42% of cases respectively.<sup>14-18</sup>

The hypopituitarism seen in these two patients enhanced the difficulty each experienced with water balance occurring as a result of advanced liver disease.<sup>11,12</sup> Both deficiency states contributed substantially to the anasarca and ascites experienced by both patients. Not until the hypopituitarism was treated with thyroid hormone replacement was the excess fluid mobilizable with even the most powerful diuretics currently available (furosemide, ethacrynic acid, and bumetanide).

The co-existent adrenal insufficiency probably accounted, at least in part, for the postural hypotension and hypovolemic symptoms experienced by the two cases particularly when diuretics were used to mobilize the excessive body stores of extracellular water. Their diabetes mellitus and autonomic as well as peripheral polyneuropathies present in both may also have contributed to this particular problem. Moreover, the cardiomyopathy related to the hemochromatosis

in each may have been an important factor relative to these particular symptoms.

Finally, the pre- and postoperative supraventricular arrhythmias experienced by Case 1 and the post-transplant cardiac failure in Case 2 probably were a consequence of an underlying cardiomyopathy that was part of the organ failure occurring in each patient as a result of hemochromatosis.<sup>40-44</sup>

In summary, two unusual cases of end-stage hemochromatosis occurring in association with a previously unrecognized panhypopituitarism due to pituitary apoplexy are reported. The clinical presentation and problems associated with these two unusual disease states (hemochromatosis and pituitary apoplexy) occurring together are discussed.

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## The Ingredients of a Successful Snuff Cessation Program

Richard T. Glass, DDS, PhD

### Author's Note

Having authored a number of research and other scientific articles, I feel compelled to comment on the departure from the usual and customary style of scientific writing used in this article. The literary style I find appropriate for the complex subject matter (snuff addiction) is one which might tend to leave the reader with the feeling that the validity of the findings are at least questionable. While some aspects of this paper may appear anecdotal, the experiences of thirty years and the success rate of my snuff cessation program (approximately 90%) should more than compensate for such freedom of expression and paucity of statistics and references.

**S**o You Want to ~~Quit~~ Change Your Snuff Dipping Habit: An Effective Snuff Cessation Program is the name of a new book I have written for those snuff dippers who want to change from their snuff addiction to a healthier habit.<sup>1</sup> The book is a condensation of my 30-year experience in helping snuff addicts change their habits and is combined with a snuff cessation kit, containing most of the essential physical ingredients needed for a cessation program. The book is written in the first person and I have been told by reviewers, "the book does not read like it was written by a doctor." The reason I wrote this book and the reason for this article, using a similar format, are the same: snuff addiction is a real problem in the South and

southwestern part of the United States, especially for young people. No... snuff addiction is more than just a problem in our area; it a growing national problem, prompted by a whole new generation of cowboy movies, from *City Slickers I* and *II* to *Wyatt Earp* and *Maverick* and an adoration of sports heroes, from baseball players who make millions of dollars to race car drivers with logos all over their racing suits.

Since both you and I want to help our patients who have this addiction, I am going to use the same writing style I used in the book, because if we are going to be effective in helping our patients, we are going to have to "not sound like it was spoken by a doctor." I am simply going to talk with you about the nature of the snuff problem, the effects of the snuff problem, and the ingredients I have found that are necessary for a successful snuff cessation program; the same way you are going to have to talk to your patients if you are going to be a part of their successful snuff cessation program. One final caveat: some of the statements in this article may seem redundant or repetitious. This is by intent, because as you know, the habit center in the brain (which is quite a distance from the cognitive centers) responds best to repetition.

### The Nature of the Problem

In order to be effective in helping your snuff addicts, you must first understand the nature of the snuff problem. This is very difficult, especially if you do not have an addiction of your own which you are trying to or have overcome (e.g., food

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Much to my  
dismay, I found  
approximately  
10% of the snuff  
users began  
their habits  
before the age  
of six...

addiction, alcohol addiction, caffeine addiction, etc.). You are probably expecting me to cite you statistics about how many people are dipping snuff at the present time, but the first two things I wish to make clear are: (1) no one really knows how many and who are snuff dippers and (2) statistics have never helped anyone change a habit. Sure, I have statistics; both mine and the self-proclaimed authorities in the field. As a matter of fact, in a recent study of children attending schools on the outskirts of a major metropolitan area in Oklahoma, I was amazed to find that 1% of the seventh grade girls and 28% of the seventh grade boys had tried or were regular users of snuff. By the time this group of young people had reached the ninth grade, the numbers were: girls=5%, boys=62%. Much to my dismay, I found approximately 10% of the snuff users began their habits before the age of six, usually as an interaction between the child and a father or other family member. Official statistics by the Centers for Disease Control and Prevention and others are much lower than mine.<sup>2,3</sup> The Surgeon General recently estimated that "over one million adolescent males currently use smokeless tobacco."<sup>4</sup> Regardless of the statistics you elect to use, a substantial number of people are addicted to snuff. *That is correct; the most important thing you must recognize about the snuff problem is snuff is an addictive drug, as addictive as heroin or morphine.* The next thing you must know is all addicts lie about their use, especially as they grow older. So, from our own studies and those of others, it is clear that a lot more people are snuff addicts than we ever expected and no one knows how many.

The snuff problem is further complicated by the types of people who usually dip. These people are often loners, but ironically, our own study showed they may also be leaders. Many of them are caught in the fantasies surrounding dipping: the cowboy ethos, the pioneer ethos, the rugged individual, and of course, the sports hero. Snuff addicts are often identified by the brand of snuff they use, with the most respected being the "Copenhagen user." Unless you understand these aspects of the problem, you will not be effective in helping your patient.

Another aspect I have learned about snuff dippers in general is these people are a lot of things, but they are not quitters. Your finding a lesion in their mouth and even after the biopsy, your telling the person to quit dipping or they will develop cancer is similar to asking a person to quit breathing. Most of these people have been dipping long enough to have integrated the habit into their life almost to the point of their snuff dip-

ping being an involuntary response like breathing. Because most snuff addicts are not "quitters" of anything, asking them to quit goes against their whole lifestyle. Therefore, it is so important to give the snuff addict a healthy alternative rather than simply telling them to "stop what they have been doing," often for a very long time.

Finally, going along with recognition that snuff is an addictive drug is the understanding that non-dipping snuff addicts are only one dip away from being right back where they started. If a non-dipping snuff addict uses any tobacco product, they will return to the level of their addiction at the time they stopped plus an added amount which the body will now require to assure a reserve of the nicotine.

### The Effects of the Snuff Problem

You know the effects of snuff addiction: the white corrugated areas in the labial and buccal vestibules (Fig. 1); the thickening and irregularity of the mucosa after years of use (Fig. 2); and finally, the papillary lesion of verrucous carcinoma (Fig. 3). But did you know in one of my recent studies where all snuff addicts entering my cessation program were biopsied regardless of their clinical findings, those addicts who had no clinical signs of snuff changes had more generalized and more severe dysplasia than the ones who had the typical white lesions. This is not to say that the white snuff-related lesion can be ignored; many of these showed some dysplasia. It is important, however, to biopsy every patient who is using directly applied tobacco regardless of the body response.

And did you know that snuff is causally related to both cervical dental caries formation and rapidly advancing periodontal destruction? The combination of high sugar content in the snuff and the decreased exchange of fluids due to snuff placement result in a marked increase in the cervical caries index. The advancing periodontal destruction has the same type of etiology, plus the effect of a space-occupying material putting the periodontal tissues under increased tension. The loss of periodontium results in root exposure, loss of acellular cementum, and exposure of caries-vulnerable dentin.

And did you know that snuff increases both the blood pressure and the heart rate? Again, in a recent study of young men coming to my snuff cessation program, slightly more than 90% demonstrated some increase in both systolic and diastolic pressures. The normal 120/80 mmHg of the American Heart Association or more commonly in this age group, 110/70 mmHg or 100/65



mmHg, was found to be 130/90 mmHg to 150/110 mmHg in snuff addicts. Do these hypertension figures surprise you? They should not. Remember why the angina pectoris patient puts the nitroglycerin under the tongue? Because the ventral surface of the tongue is richly supplied with vessels while at the same time having a very thin mucosa, allowing for immediate uptake of the nitroglycerin. This anatomic phenomenon also allows for the rapid uptake of the nicotine found in snuff and thus, the rapid action of that nicotine on the small vessels with the subsequent increase in blood pressure. Studies from Sweden on over 5,000 snuff users found that they were twice as likely to have systolic pressures greater than 160 mmHg and twice as likely to have diastolic pressures greater than 90 mmHg as compared to 8,800 smokers and 24,000 non-users of tobacco.<sup>5</sup>

And did you know that if you computer-search the English literature back to 1966, you will find only two references to studies on gastrointestinal tract diseases related to snuff addiction? In one Swedish study, the investigators found that snuff addicts were over twice as likely to have Crohn's disease (inflammation of the small intestine) and ulcerative colitis than non-users, and if the snuff addict also used cigarettes, the risks for both diseases almost doubled again.<sup>6</sup> In the second study, one from India, 100 snuff addict volunteers had endoscopic examinations of their stomach linings. Twenty of the volunteers had chronic gastric erosions on the snuff they regularly used and were disqualified from further study. When the 80 non-eroded snuff addict volunteers were given various doses of snuffs, an additional 30 subjects also developed gastric erosions. The investigators concluded that snuff ingestion produces dose-dependent damage to the gastric mucosa.<sup>7</sup>

But what about coronary heart disease? I do not have profound scientific answers for questions about these diseases, because a search of the English literature back to 1966 did not reveal a single literature reference. All I have are anecdotal stories and case histories; but I have, in 30 years, collected a number of cases where the only risk factors for coronary heart disease were snuff. Why have we not had scientific studies on snuff-related coronary heart disease? Again, I do not know except the snuff industry is a multi-billion dollar business and they are not very interested in sponsoring such research. Maybe the estimates of five to ten million adults and over one million adolescents using smokeless tobacco are not high enough to warrant federal funding for study.<sup>2-4</sup>



Figure 1. The typical corrugated snuff lesion of the lower lip. Note also the lass if periodantal tissues in the lower anterior region.



Figure 2. The heavy white hyperkeratotic area of a long-time snuff addict. There is marked incisal wear of the teeth along with cervical dental caries and loss of periodantal tissues.



Figure 3. The surface spreading verrucous carcinoma associated with pralanged snuff use.

Maybe no professional discipline nor clinical specialty has taken responsibility for studying the effects of snuff. I find that most clinicians only ask questions about cigarette smoking, as if other forms of tobacco have no effect on patients' health. Maybe the snuff addicts, by virtue of their very sneaky and secretive habit, do not want to



be identified and studied. Maybe they are fearful of having the same restrictions imposed on them that cigarette smokers now have. Regardless of the blame, the studies have not been performed or the data have not been reported.

### Ingredients of a Successful Snuff Cessation Program

Sometimes I feel there is only one ingredient of a successful snuff cessation program: *a snuff addict who understands their addiction and is completely committed to changing their habit*. Certainly, this is the most important single ingredient. As a matter of fact, I will accept a snuff addict into my practice and will set up an examination schedule (usually every three months) and a biopsy schedule (usually at least once a year), but I will not accept a snuff addict into my cessation program unless or until they are truly committed to changing from their snuff habit to a healthier alternative. I have been accused and rightfully so of being selective only to maintain my cessation success rate at or near 90%. On the contrary, I have found that unless the snuff addict has this type of commitment, changing this deeply ingrained intimate habit is almost impossible.

Once the snuff addict has reached the point of commitment, the next step is to develop an individualized cessation program. In order for the program to be effective, it must be rigidly followed and must incorporate both direct and indirect issues of snuff addiction. The direct issues of the cessation program deal with (1) the use of a snuff alternative, (2) the use of a nicotine alternative, (3) the combination use of a snuff alternative and a nicotine alternative, or (4) "cold turkey." I also prepare the snuff addict for indirect issues and pitfalls in their cessation: the hydration, exercise, three-week, three-month, and three-year issues; the caffeine pitfall and the obesity pitfall. While all of these are covered in detail in my book, I want to touch on each. Finally, in both my book and in my cessation program, I use pictures: vivid pictures of various snuff-related lesions. I tell each addict the pictures all have one thing in common with them: the people in the pictures *also* did not expect to ever be in these pictures.

The greatest success has been with the use of a snuff alternative in a program of weaning snuff addicts from their use. The snuff alternative I have had the best results with is Smokey Mountain Chew<sup>TM</sup>. This product is a blend of herbs and peppers and has about the same color and consistency as snuff. The major complaints from patients deal with the difference in taste between Smokey Mountain Chew<sup>TM</sup> and snuff. I concede

the difference and remind the addict how repulsive snuff tasted when they first started. The weaning program covers a minimum of four periods of three weeks each for a total of 12 weeks. The first three weeks, the addict mixes one can of their usual snuff with one can of Smokey Mountain Chew<sup>TM</sup>. If the addict has not deviated from this mixture, beginning at week four, they mix one can of their usual snuff with two cans of Smokey Mountain Chew<sup>TM</sup>. Again, if the addict has not deviated from this mixture, beginning at week seven, they mix one can of their usual snuff with three cans of Smokey Mountain Chew<sup>TM</sup>. At the end of the ninth week, if the addict has not deviated, they must continue to dip only the Smokey Mountain Chew<sup>TM</sup> for an additional three weeks. At the end of the twelfth week, if they are confident of their success, they may discontinue any dipping. The final caveat is they must carry a can of Smokey Mountain Chew<sup>TM</sup> with them at all times for at least the next three years so it is always instantly available to them. If they ever want to reinstitute their snuff addiction, they must reverse the above, starting with three weeks of only Smokey Mountain Chew<sup>TM</sup>.

Those patients who choose the nicotine alternative, I still insist they carry Smokey Mountain Chew<sup>TM</sup> at all times so if they are tempted to "cheat," they are using a non-nicotine substance. The only reported problems with the nicotine patch have been with those who use snuff while wearing the patch. Similarly, I also insist that the addicts who want to go "cold turkey" carry Smokey Mountain Chew<sup>TM</sup> for the same use and the same reason. I have not had near the success with these latter two groups as compared to those who go through the weaning program.

The indirect issues are of equal importance and also must be rigidly followed. The addicts must measure and drink at least 80 ounces of water per day, while completely restricting their caffeine intake. I have found that the water helps both with increasing salivary flow and in mobilizing the stored nicotine. The caffeine potentiates the effects of the nicotine and therefore increases the nicotine withdrawal symptoms. Like water, exercise appears to increase the mobilization of nicotine from its tissue storage sites. If the addict is inactive at the beginning of the program, they begin with 30 minutes of exercise (preferably aerobic) per day until they work up to one hour per day. The obesity pitfall is the tendency of snuff addict to adopt sugar addiction to replace their snuff addiction. I restrict the sugar intake of all snuff addicts in the cessation program.

The first three weeks (three-week issue) is the

I will not accept  
a snuff addict  
into my  
cessation  
program unless  
or until they are  
truly committed  
to changing  
from their snuff  
habit to a  
healthier  
alternative.

most intense and difficult period in the snuff addict's program. It is during this period they are most likely to "cheat." The problem with cheating is it prolongs the three-week issue. Remember, it takes 30 consecutive days of doing the same thing, to form any habit. Add the withdrawal symptoms of the first three weeks and you can see what a difficult period this is. Once the addict has made it through this period, the three-month issue deals with release of nicotine from fat storage areas and the desire for more nicotine. Intensifying hydration, caffeine restriction, sugar restriction, and exercise are a must during this period. The three-year issue deals with the confidence the non-dipping addict now has. Often, they feel they can have "just one little dip." I assure them they cannot and if they take the first dip, they will be right back to where they were.

### Summary

From the brief outline of the details so necessary for a successful snuff cessation program, it is apparent that snuff addiction is a complex and difficult issue. In the same way that some things in clinical dentistry you prefer to do and some things you prefer to refer, so it may be for your snuff addicts. By virtue of your rapport with your patient, you may be the best to treat the patient's

addiction or you may want to refer the patient to an established *snuff cessation program* (not a *cigarette cessation program*). Simply telling the snuff addict not to dip is grossly inadequate. Dentists have been very successful in stemming the tide of dental caries and periodontal disease. From the knowledge gained in these prevention programs and the fact that snuff has such an impact in the mouth, the dentist is the natural health care provider to conduct successful snuff cessation programs.

J

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### The Author

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## Perry Lambird finishes strong second in AMA vice-speaker position

Despite a well organized and clever campaign touting him as "Perry A., the clear and natural choice," Oklahoma City pathologist Perry A. Lambird, MD, was unable to overcome the challenge of three other candidates in his race for vice-speaker of the American Medical Association's House of Delegates.

In the election, held last month in Chicago during the AMA's 114th Annual Meeting, Dr. Lambird finished a strong second to John A. Knotz, MD, a radiologist from Lafayette, Indiana. The five-day business meeting featured the inauguration of California internist Lonnie Bristow, MD, as AMA president.

The Oklahoma delegation at the June 18-22 meeting included OSMA President Larry L. Long, MD, Oklahoma City, and the following: Drs. John R. Alexander, Norman L. Dunitz, and Boyd O. Whitlock, Tulsa; Drs. William O. Coleman, Perry A. Lambird, and Gary F. Strebel, Oklahoma City; and Jay A. Gregory, Muskogee. Alternate delegates attending were: Drs. Sara R. DePersio, William H. Hall, and Mary Anne McCaffree, Oklahoma City; Greg Ratliff and J. Ross Vanhooser, Enid; and W.F. Phelps, Tulsa. Also present were OSMA Executive Director David Biekham and Associate Director Mike Sulzycki.

—SFR

## Female breast cancer is most prevalent cause of malpractice claims

Malignant neoplasms of the female breast (and especially delays in their diagnosis) account for more medical malpractice suits and claims than any other single disease, condition, or iatrogenic injury, according to a recent report from the Physician Insurers Association of America (PIAA) (Table 1).

The report, which lists the 40 most prevalent causes of claims, also ranks the 40 according to the cost of the average settlement. In that listing, only brain damaged infants, at \$449,486 per average settlement, outranked female breast cancer, which averages \$204,436 per settlement (Table 2).

Based on figures gathered for the period 1985 through 1994, the report says payments for breast cancer-related claims have increased significantly over the last ten years. For example, the average payment from 1985 to 1993 for delay in diagnosing breast cancer was just over \$190,000. In the most recent 6-month period (June through December, 1994), the average was up to \$307,000.

The study as a whole tracked over 125,000 claims and suits, while the special report examining delays in the diagnosis of female breast cancer was narrowed to the 487 claims and suits where such delays were the issue. Those claims represent a very small portion of the estimated 1.5 million women who were diagnosed with breast cancer during the same period.

**Table 1. Most Prevalent Causes of Claims**

Condition	No. Files Reported	Avg. Pd. Per File (\$)
1. Malignant neoplasms of the female breast .....	2986	204,436
2. Brain damaged infant .....	2613	449,486
3. Pregnancy .....	1953	128,978
4. Myocardial infarction, acute .....	1770	190,347
5. Displacement of intervertebral disc .....	1662	172,041
6. Malignant neoplasms of the bronchus and lung .....	1639	149,823
7. Appendicitis .....	1296	83,100
8. Femur, fracture of .....	1290	85,255
9. Cataracts .....	1151	96,603
10. Sterilization, admission, or office treatment for .....	1119	46,770

(continued)

## Most prevalent conditions *(continued)*

**Table 2. Conditions Resulting in Most Expensive Claims Settlements**

Condition	No. Files Reported	Avg. Paid Per File (\$)
1. Brain damaged infant .....	2613	449,486
2. Malignant neoplasms of the female breast .....	2986	204,436
3. Myocardial infarction, acute ...	1770	190,347
4. Malignant neoplasms of the bronchus and lung .....	1639	149,823
5. Displacement of intervertebral disc .....	1662	172,041
6. Pregnancy .....	1953	128,978
7. Meningitis .....	609	297,753
8. Fetal distress .....	539	281,472
9. Central nervous system complications of a procedure ....	222	494,655
10. Malignant neoplasms of the colon or rectal region .....	697	186,850

The report noted 12 reasons for delay in diagnosis, with the three most common being: the physical findings failed to impress the physicians as suspicious (35% of the claims), a failure to follow up with the patient in a timely manner (31%), and the mammogram results were negative (25.8%).

Radiologists and obstetricians were the most frequently named defendants in such suits, with radiologists targeted 24% of the time and obstetricians/gynecologists 23% of the time. These were followed by family practitioners (17%), surgeons (14%), internists (9%), other specialists (5%), corporations (4%), pathologists (2%), and hospitals (2%).

Compared to the results of a similar report five years ago, the new report shows the average payment per claimant has increased 36% and payments for lawyers, expert witnesses, and administration have risen 50%.

The PIAA is an association of 50 medical malpractice insurance companies which are owned or controlled by physicians (44 domestic, 3 international companies) or dentists (3 companies) and 4 reinsurance companies. The member companies collectively insure some 225,000 physicians and dentists, more than 60% of all physicians/surgeons and dentists in private practice in the U.S. The PIAA's Data Sharing Project provides publicly available data on malpractice claims and suits.

—SFR

## Announcing the 1995 Mark R. Johnson Competition "Excellence in Medical Writing"

The Editorial Board of the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION and the OSMA Board of Trustees are proud to announce the 1995 Mark R. Johnson Competition—Excellence in Medical Writing.

**A \$500 cash award will be presented to the medical student or resident at the University of Oklahoma College of Medicine (Oklahoma City or Tulsa campus) who, by December 31, 1995, submits the best scientific paper or opinion piece for publication in the JOURNAL.**

Entries will be judged by the JOURNAL's Editorial Board at its annual meeting next March and the winner, if any, will be announced at the Annual Meeting of the OSMA House of Delegates in April 1996. All decisions of the Editorial Board will be final.

The student or resident submitting the paper need not be the *sole* author, but must be the *lead* author and must have done the majority of the writing. Entries in the competition should be clearly labeled as such when submitted.

Entries should be mailed to: Mark R. Johnson Competition, OSMA JOURNAL, 601 Northwest Expressway, Oklahoma City, OK 73118. For additional information, call (405) 843-9571 or 1-800-522-9452.

The memorial trust that funds the competition was established by the friends and family of Mark R. Johnson, MD, who, during his two decades as editor-in-chief of the OSMA JOURNAL, exemplified the very best in both expository and opinion writing in the field of medicine.

# Federation reacts to OKC bombing with calls, letters, resolutions

Both the Kansas Medical Society and the Illinois State Medical Society found time during their own busy annual meetings this spring to remember Oklahoma and the OSMA in the wake of the Oklahoma City bombing.

Meanwhile, dozens of calls from Federation members all over the country were coming into OSMA headquarters to offer help, prayers, and concern.

The Kansas House of Delegates sent a Commendation of Oklahoma Physicians and the Illinois house sent a Special Resolution. Following are the resolutions and the letters that accompanied them.

To OSMA Executive Director David Bickham:

Dear Dave:

On behalf of the membership of the Kansas Medical Society I am enclosing a commendation resolution honoring the physicians of the Oklahoma State Medical Association on their response to the medical consequences of the recent bombing in Oklahoma City. This resolution was adopted unanimously at our recent state-wide annual meeting.

Please express to your membership the support of the members of KMS.

Sincerely,  
Jerry Slaughter  
Executive Director

Printed on parchment and bearing the gold seal of the KMS, the resolution reads as follows:

The Kansas Medical Society  
Incorporated 1859  
Topeka, Kansas

Commendation of  
Oklahoma Physicians

WHEREAS, Oklahoma and Kansas not only are contiguous states but also share many historic and cultural ties, and

WHEREAS, Oklahoma and Kansas physicians, recognizing this common heritage, have a long standing practice of meeting together to advance their

common interests at the AMA level on behalf of our respective state medical associations, therefore be it

**RESOLVED**, That the Kansas Medical Society in its annual meeting on May 5-7, 1995, extend its condolences to the families and victims of the

in the highest tradition of the profession, and be it further

**RESOLVED**, That the text of this resolution be transmitted to the Oklahoma State Medical Association staff, officers and delegates from their Kansas counterparts, dated this 7th of May, 1995.

To OSMA President Larry Long, MD:

Dear Dr. Long:

The ISMS sends its sympathy for and condolences to the people of Oklahoma. We wish to express our deep distress at the loss of so many lives.

Our House of Delegates at its annual Meeting on April 21, 1995, adopted the enclosed Special Resolution in an endeavor to convey our feelings.

Again, our deepest sympathy and condolences.

Sincerely,  
Ronald G. Welch, MD, Chairman  
ISMS Board of Trustees  
Raymond E. Hoffmann, MD  
President

The leatherette-bound Illinois resolution is printed on heavy stock and bears the seal of the Illinois State Medical Society:

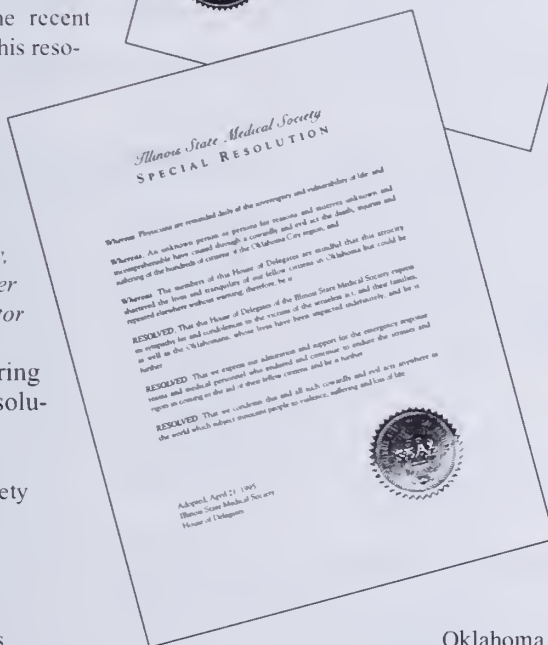
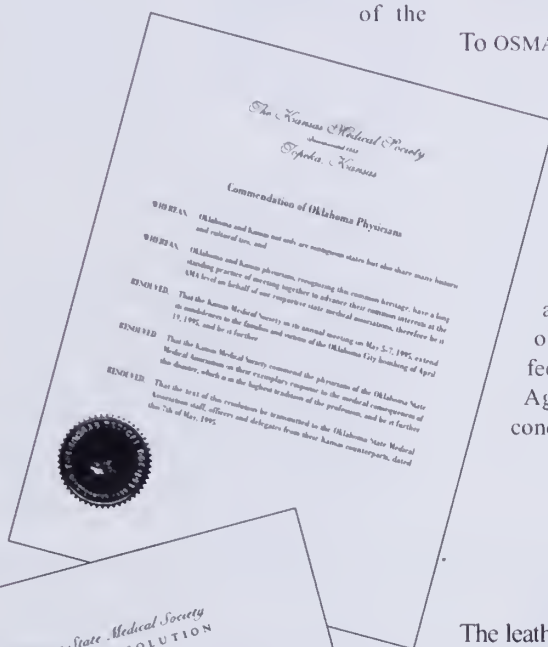
Illinois State Medical Society  
Special Resolution

WHEREAS, Physicians are reminded daily of the sovereignty and vulnerability of life; and

WHEREAS, An unknown person or persons for reasons and motives unknown and incomprehensible have caused through a cowardly and evil act the death, injuries and suffering of the hundreds of citizens of the Oklahoma City region; and

WHEREAS, The members of the House of Delegates are mindful that this atrocity shattered the lives and tranquility of our fellow citizens in Oklahoma but could be repeated elsewhere without warning; therefore, be it

**RESOLVED**, That this House of Delegates of the Illinois State Medical Society express its sympathy for and condo-

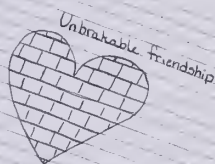


Oklahoma  
City bombing of April 19,  
1995, and be it further

**RESOLVED**, That the Kansas Medical Society commend the physicians of the Oklahoma State Medical Association on their exemplary response to the medical consequences of this disaster, which is



Dear Families of Oklahoma,  
I'm very sad for the  
tragic accident that happened  
to you. I wish that I could  
have said to you to think about  
it. It's so sad that a child and she  
or it had a child and she  
died. I wouldn't know one  
live in the world. I wish  
you could fly away  
I wish that I was because  
your town and something  
and then everyone would be alright  
I hope all you children and  
parents get better or I hope  
rest in peace  
Sincerely  
Heather Munson  
14402 NE Irving St  
Portland, OR 97230



Dear Oklahoma City,  
My name is Danielle Bower  
I feel really bad about what  
happened to someone I wish  
I had been there. I wish it  
didn't happen. I think it's really sad how  
you guys are pulling it together.  
Keep it up. Your friend  
Danielle Bower

Dear Oklahoma City,  
I'm really sad about what happened to  
many of your citizens with the  
bomb. When I watch TV, I almost  
feel response-able because it seems  
like we could have done something.  
It's going to be hard for the  
parents when they wake up in the  
morning and make them up in  
their child or kids. I remember that they were  
killed because of stupidity and  
for a parent or kids who have  
been to meet my father in  
heaven. I understand what it's  
going to be like for you.  
I got to meet him because he  
was killed before I was born.  
God Bless You.  
Trisha Bacon

lences to the victims of the senseless act, and their families, as well as the Oklahomans whose lives have been impacted indefinitely; and be it further

**RESOLVED**, That we express our admiration and support for the emergency response teams and medical personnel who endured and continue to endure the stresses and rigors in coming to the aid of their fellow citizens; and be it further

**RESOLVED**, That we condemn this and all such cowardly and evil acts anywhere in the world which subject innocent people to violence, suffering and loss of life.

Adopted, April 21, 1995  
Illinois State Medical Society  
House of Delegates

Dr. Long's reply, on behalf of the association, was as follows:

On April 19, 1995, at precisely 9:02 a.m., Oklahoma's view of the world was suddenly and irrevocably changed when a terrorist bomb ripped away one-third of the Alfred P. Murrah Federal Building in Oklahoma City. One hundred sixty-eight precious lives were lost, 19 of them children.

The instantaneous response of the city, the state, the entire nation, and especially from our friends and colleagues in the Federation, was overwhelming and incredibly humbling.

Today, as we slowly get our lives back to normal, we look back with deep appreciation to all of you who reached out in our time of need, who sent provisions, personnel, and prayers.

And we are particularly grateful to the members of the (Kansas Medical Society/Illinois State Medical Society) who, in the midst of a busy annual meeting, found time to remember us with a special resolution.

It will be our pleasure to publish your resolution in our journal and thus convey your thoughtfulness to our entire membership.

With your assistance we have come

These letters arrived at the University of Oklahoma Health Sciences Center exactly one week after the bombing. They were among the 37 sent by Deno Hellums' seventh grade humanities class at Reynolds Middle School in Troutdale, Oregon.

this far, and with your continuing support we shall recover. God bless you all.

Sincerely,  
Larry L. Long, MD  
President

Executive Director David Bickham responded to the many phone calls with the following faxed message to the entire Federation:

One month ago today, at precisely 9:02 a.m., Oklahoma's view of the world was suddenly and irrevocably changed when a terrorist bomb ripped away one-third of the Alfred P. Murrah Federal Building in Oklahoma City.

The instantaneous response of the city, the state, the entire nation, and especially from our friends and colleagues in the Federation, was overwhelming and incredibly humbling. Offers of assistance of all kinds, teams of rescuers, physicians and nurses, construction workers, truckloads of food and emergency provisions of every imaginable kind, inundated the city. There were no strangers here as the California fire fighter, the Arizona rescue specialist, and the Missouri nurse worked side by side with Oklahoma's finest. To us, every one of them is a hero.

Now, one month later, we pause to look back at what's happened. The death toll stands at 167; 19 of them were children... but every one was someone's child. More than 400 persons were injured in the blast, but remarkably few remain hospitalized. Our concern now is turning to those whose emotional traumas are surfacing. Mental health experts in the community are redoubling their efforts as anniversaries like today and the scheduled razing of the building next Tuesday continue to take their toll on both the rescuers and the rescued. As a community, we will be dealing with the post-trauma stress for an indefinite period.

In the meantime, to all of you who reached out in our time of need, who sent provisions, personnel, and prayers, our gratitude is boundless and words a feeble gesture at best. With your assistance we have come this far, and with your continuing support we shall recover.

Thank you, and God bless you all.  
Sincerely,  
David Bickham  
Executive Director

## Drug-resistant pneumonia on the increase but vaccine now available

Influenza/pneumonia is one of the top 10 causes of death in this country. In fact, it is the only infectious disease, other than AIDS, in the top 10. The organism *Streptococcus pneumoniae* is the leading cause of bacterial pneumonia with up to 320,000 cases and over 35,000 deaths occurring in the U.S. annually.

In 1965, the first penicillin-resistant pneumococcus was identified, and since then reports of resistant isolates have increased. Today, both the Institute of Medicine and the Centers for Disease Control and Prevention (CDC) have declared "Emerging Infections," which include drug-resistant pneumococcus, to be one of the major challenges facing the medical community.

In the last ten years, in the Oklahoma City area, several studies have been performed looking at the amount of drug-resistant pneumococcus. These studies have demonstrated some of the highest

rates of penicillin/drug resistance in pneumococcus found in the U.S. In 1978, 16 of 103 (15.5%) pneumococci isolated were relatively resistant (MIC =  $>0.12$  ug/ml) to penicillin. In 1984, 12.2% (17/139) of the pneumococcal isolates from normally sterile sites were found to be relatively penicillin resistant (MIC =  $0.1-1.0$  ug/ml). And in a 1990 study, 28 of 144 (19.45%) invasive pneumococcal isolates were resistant to at least one common antibiotic, with 18.6% resistant to penicillin, erythromycin, or TMP-SMZ, and 7.6% relatively penicillin resistant (MIC =  $>0.1$  ug/ml).

With the morbidity and mortality of *S. pneumoniae* infections and the emergence of drug resistance, prevention is critical. However, it is estimated that less

than 20% of eligible persons are vaccinated with the pneumococcal vaccine despite the availability (cost is less than \$10 and 100% Medicare reimbursable) and despite the recommendation of a 23-valent pneumococcal vaccine for all persons 65 years of age and older and for persons 2 years of age and older with medical conditions that increase their risk for pneumococcal disease. Now is the time to vaccinate everyone for whom the vaccine is indicated. Since the flu and pneumonia are often deadly partners, every person getting flu vaccine should be evaluated for the pneumococcus vaccine and immunized if appropriate.

For further information concerning the pneumococcal vaccine and other adult immunizations, see the *MMWR*, November 15, 1991, Vol. 40, No. RR-12, "Update on Adult Immunization, Recommendations of the Immunization Practices Advisory Committee (ACIP)." J



## LETTERS

### Texas doctor uses nitroglycerine patches for brown recluse spider bites

*To the Editor:* I have for 10 years been using nitroglycerine patches for the treatment of brown recluse spider bites.

Brown recluse spider venom is known to cause considerable ischemic necrosis, spasm and occlusion of the blood vessels. In the early stages of a brown recluse spider bite, a small black gangrenous spot is surrounded by a halo of pale ischemic tissue and a hyperemic circle of edematous skin. Over a period of a few days, a large crater, approximately 0.75 cm deep, develops. This is caused by sloughing of gangrenous tissue. Severe bites may require skin grafts and prolonged recuperation.

The nitroglycerine patch appears to reverse the vessel spasm and abort ischemic damage. The patch is applied to the affected area. In addition, antibiotic therapy should be prescribed.

A patch that delivers 0.1 mg per hour works best. A 0.4 mg per hour patch can also be used; however, it must be removed frequently to prevent severe headaches. When headache occurs, advise the patient to remove the patch and reapply it to the skin one or two inches above the lesion. When headache subsides, the patient should again place the patch over the lesion.

Nitroglycerine paste should not be used because it causes

headaches and is irritating to the skin. The lesion should not be irrigated, cleansed with soap or treated with topical antibiotic ointment.

If treatment is started within 48 hours after the patient is bitten, no ulceration will occur. A 3-cm spot will heal without scarring in approximately three to four weeks.

—Kenneth G. Burton, MD  
San Antonio, Tex.

Reprinted by permission from the *American Family Physician*, May 1, 1995; Vol. 51, No. 6, published by the American Academy of Family Physicians.

### Medical savings accounts doom MCOs?

*To the Editor:* Three cheers for Dr. Dehart's guest editorial ["Managed Care and Board Certification," *JOURNAL*, May 1995]. Managed care (rationing) represents veterinary medicine for humans. The herding of patients, the emphasis on preventive medicine (vaccination for cows), and the physician's preoccupation with the satisfaction of the HMO or network with the effectiveness of his/her rationing rather than with the satisfaction of the patient is the essence of veterinary medicine. The push to limit physician participation to

(continued)



## Letters (continued)

only the board certified is a phony attempt by the HMOs/PPOS to point to their commitment to quality.

Dr. Dehart states, "Oklahoma has no 'Any Willing Provider' law, for whatever reason, but legislative action is needed." It is important to note that the OSMA Board of Trustees voted to oppose "Any Willing Provider" legislation. The argument was that this legislation would represent a new lease on life for non-physician providers attempting to practice medicine. If we as a profession cannot compete with non-physicians then we are in a lot of trouble.

Finally, I disagree with Dr. Dehart when he states, "*Managed care*, today's new 'buzz word' like *health care reform* was a short year ago, is here to stay...." The success of medical savings accounts spells the doom of managed care, as each patient becomes, in effect, their own HMO, with financial incentive to ration care to themselves. In addition, managed care will not work if physicians do not sign up for these immoral rationing schemes. How can we claim to be uncontaminated patient advocates when we have signed on as the rationing agent for an HMO/PPO? In other words, "whose bread I eat, his song I must sing," as the proverb goes.

Just as I wish that my physician elders had refused to partake of the Medicare fruit, physicians of tomorrow will either thank or condemn us for how well we resisted the "provider fruit" offered by the immoral managed care rationers.

—G. Keith Smith, MD  
Oklahoma City

## Too many infringements

*To the Editor:* I was very pleased to read the article about Robert K. Endres, MD [JOURNAL, June 1995]. I was a resident in pediatrics when Dr. Endres was in practice in Springer Clinic as a pediatrician in Tulsa. I obtained my certification in pediatrics and later became a practitioner of that art myself in Tulsa. One of Dr. Endres's favorite statements to the residents and interns was, "Never do anything for a patient that will prove

harmful." I am sure that most of us who heard that statement have tried to live by it.

Dr. Endres was always one for calling a spade a spade and by reading his comments one does not have to second guess his concerns about the practice of medicine today. e.g., "There can still be joy in practicing medicine, but there's less of it due to all the well-known infringements. And many younger physicians are too mercenary. Money and power corrupt. I think the public is going to demand a return to a more viable physician-patient relationship."

There are many problems that we come face to face with in practice today. Many have forgotten that medicine has many faces. It is not just a business; it is also a humanity, art, and science. Those of us who wish to establish our own private practice find it almost impossible to compete in contrast to the '50s and '60s because of the giant corporate maneuver to take over the business of medicine, and he who holds the pursestrings controls the giant. Not only are doctors being controlled as employees but the patient is also directed to the doctor by the ever expanding and engulfing MCOS, PPOS, and other bureaucratic organizations. I find the statement to "join up or go under" quite common these days. Men like Dr. Endres should be allowed to teach interns and residents the ethics of medicine until they no longer are able, to the benefit of medical society and the patient.

There is always the cry that medicine has changed and that we must accommodate the heat in the kitchen or get out of it. This has led physicians to continue membership in a defunct organization such as the AMA. For years we have supported the AMA because "we had to." We have only been told what we must do to satisfy government bureaucracy in order to remain viable in medical practice. We have not been conveyors through the AMA of the things that we feel must be done in order for us to continue to practice medicine and maintain our sanity. We have no true representation of our demands. It is time that we speak up for ourselves and our patients to continue the private and true patient-

doctor relationship that has existed in the past.

I am aghast that doctors spend twelve years of their lives after high school acquiring an education to practice medicine and yet I read every day of their licenses being placed on probation or suspended for inappropriate prescriptions and such nebulous things as inadequate patient-doctor relationship. Why is this, when crack cocaine is being sold on the streets and drug addicts run amuck? If medications for pain and stress are not to be entrusted in the hand of the practitioner, why allow pharmacists to sell them? Why are they not sold to patients only through hospital emergency rooms or ambulatory care centers?

If we want doctors to practice in rural areas and establish excellent doctor-patient relationships, what are we going to do to help them? So far the only thing being done is to allow MCOS to establish clinics for the purpose of patient capture by large hospitals or other medical foundations. Unfortunately the patient is lost much of the time in bureaucratic procedure with no physician rapport.

These are just a few of the problems we encounter today in medicine and physicians need representation with clout to solve them.

—John M. Hill, Jr., MD  
Hartshorne

## DEATHS

### Henry Washington Harris, MD 1904 - 1995

Retired obstetrician-gynecologist Henry W. Harris, MD, died June 2, 1995, in Oklahoma City. Born in Alabama, Dr. Harris came to Oklahoma as a boy and was graduated from the University of Oklahoma School of Medicine in 1927. He completed his residency at Polyclinic in New York City before returning to Oklahoma City to establish a practice. He retired in 1982 after more than 50 years of practice. It is estimated that Dr. Harris, a Life Member of the OSMA since 1978, delivered more than 5,000 babies during his career.

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**Gerald Leon Honick, MD**  
**1928 - 1995**

Blackwell native Gerald L. Honick, MD, died May 24, 1995, in Oklahoma City. Dr. Honick earned his medical degree from the University of Oklahoma School of Medicine in 1953. He then completed a residency in internal medicine and a fellowship in cardiology and was certified by the Board of Internal Medicine and the American College of Cardiology. Dr. Honick entered private practice in Oklahoma City in 1960. During the Korean conflict he served as a captain in the U.S. Army. Later he pioneered St. Anthony Hospital's Mobile Coronary Care Unit.

**Joan Kazanjian Leavitt, MD**  
**1926 - 1995**

Dr. Joan K. Leavitt, former Oklahoma state commissioner of health, died of cancer June 13, 1995, in an Oklahoma City hospital. Born in Boston, she earned her medical degree in 1953 at the Boston University School of Medicine. In 1958, after completing her internship and pediatric residency in Boston, she moved to Altus, Okla., where she gradually became more involved in public health. She moved to Ponca City in 1967 and then, in 1976, to Oklahoma City to become chief of Maternal and Child Health Services at the Oklahoma State Department of Health. A year later she was named state commissioner of health, a post she held until 1993. In 1994 Dr. Leavitt was named a Life Member of the OSMA, and in February 1995 she was featured in the JOURNAL's Leaders in Medicine series. —SFR

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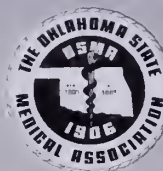
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■ **Kendall L. Stanford, MD, instructor of pediatrics at the University of Oklahoma College of Medicine in Oklahoma City,** has been awarded the 12th annual Stanton L. Young Master Teacher Award. Presented each spring, the award is given to a faculty member in the College of Medicine who exemplifies professional and personal excellence and who demonstrates the ability to serve as a truly inspiring teacher. The \$10,000 award, one of the largest in the nation for medical teaching excellence, was established in 1983 by Oklahoma City businessman Stanton L. Young. Nominations for the award are made by medical students and the executive dean of the College of Medicine makes the final selection. Dr. Stanford is also associate director of the Pediatric Clinic, Section of General Pediatrics, at Children's Hospital of Oklahoma.

■ **Roy L. DeHart, MD, professor and chair of the Department of Family Medicine at the University of Oklahoma Health Sciences Center,** was recently honored for his work in occupational medicine. He received the Robert A. Kehoe Award of Merit for outstanding educational contributions in the field of occupational medicine from the American College of Occupational and Environmental Medicine (ACOEM). Dr. DeHart is a past president of ACOEM and the American College of Preventive Medicine. He joined OUHSC in 1985.

■ **Dr. David W. Paul, professor of family medicine at OUHSC,** was named president of the Oklahoma College of Occupational and Environmental Medicine (OCOEM) at the organization's spring meeting May 12 in Tulsa. Dr. Paul is also assistant clinical professor in the Division of Occupational and Environmental Medicine at OU. His special interests include quality of care, workers' compensation cost control, disability and return-to-work issues, and toxic illnesses.

Named vice-president of OCOEM was Lynn V. Mitchell, MD. Dr. Mitchell will be instrumental in the production of ongoing educational programs sponsored by the organization, which include medical legal issues, injury care, carpal tunnel syndrome, and reproductive issues in the workplace. She is chief of the Division of Occupational and Environmental Medicine at OUHSC, where she joined the faculty in 1989.

■ **OUHSC Department of Pediatrics Chair Terrence L. Stull, MD,** has been given the additional title of Hobbs-Recknagel Professor of Pediatrics and adjunct professor of microbiology and immunology. The action was approved May 10 by the OU Board of Regents and becomes effective August 1. OU President David L. Boren describes Dr. Stull as "an outstanding doctor, fine teacher, and talented administrator" who "richly deserves his new additional title and responsibilities."

The Board of Regents also approved the appointment of Douglas P. Fine, MD, as interim chair of the Department of Medicine. Dr. Fine currently serves as professor and vice chair for the department and also is chief of the Medical Service and chief of the Infectious Diseases Section at the Oklahoma

City Veterans Affairs Medical Center. "Dr. Fine is a 'physician's physician' and a highly recognized investigator and educator who has outstanding skills, abilities, and talents," said Dr. Douglas Voth, executive dean of the OU College of Medicine. Previously Dr. Fine has earned the OU College of Medicine's Third-Year Medical Resident's Award for Outstanding Medicine Faculty, the college's Aesculapian Award, and the James F. Hammersten Physician of Excellence Award.

■ **The Indiana Pharmacy Board voted in May to change** the type of prescription pads used in that state. The changes are an effort to prevent prescription forms from being copied or otherwise forged. After January 1, all prescriptions must be written on prescription forms that cannot be photocopied without the word *void* appearing on the copy. The new rule also proposes that only one prescription be written per prescription form. The Indiana State Medical Association will be working with suppliers to offer their members a cost-effective way to order prescription pads that comply with the new rule.

■ **Tulsa physician F. Daniel Duffy, MD, chair of internal medicine at OUHSC's Tulsa campus,** has been elected to a second term on the American College of Physicians (ACP) Board of Regents and elected to a two-year term as chair of internal medicine's Resident Review Committee (RRC). In the past he has served as governor of ACP's Oklahoma chapter, and in 1991 he served as chairman of the Board of Governors.

■ **William H. Yarborough, MD, assistant professor of internal medicine on OUHSC's Tulsa campus,** has been appointed medical director for 12&12, Inc., a national substance abuse treatment program.

■ **Earnest Lee Taylor, MD, Muskogee general surgeon,** as been appointed to a nine-year term on the State Board of Health. He will fill the position formerly held by Burdge Green, MD, Stilwell, who was appointed by former Governor David Walters.

■ **A Women's Health Clinic has been established by the Adult Medicine Clinic in Tulsa.** The new clinic is part of an effort by the University of Oklahoma Health Sciences Center-Tulsa to include more emphasis on women's health in the medical curriculum. The clinic will focus on outpatient gynecology, cardiovascular risk, osteoporosis, menopause, and other related issues. In addition to the clinic, an elective in women's health has been established.

■ **Randy Sansone, MD, Tulsa, been appointed to the Board of Trustees of the Academy of Eating Disorders** and also has received the fifth annual Nance C.A. Roeske, MD, Certificate of Recognition for excellence in medical student education from the American Psychiatric Association.

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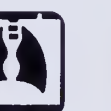
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OKLAHOMA STATE MEDICAL ASSOCIATION  
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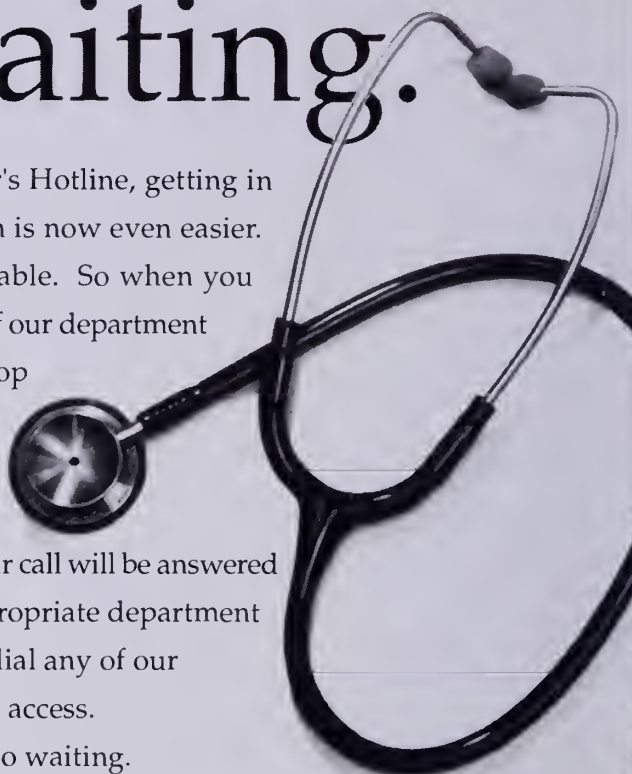
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# JOURNAL

OKLAHOMA STATE MEDICAL ASSOCIATION

AUGUST 1995

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## On old Olympus' towering top...

The famous professor of anatomy, Ernest Lachman, had a custom of telling the freshman anatomy class at the end of the academic year: *"You now know more human anatomy than you ever shall again."* To the word-benumbed freshman student this shocking statement introduced the problem of the maintenance of professional competence amid the vicissitudes of a medical career.

Maintaining competence is a perennial issue for every ethical physician. New knowledge in medicine, surgery, and therapeutics is discovered almost daily, and the good physician must selectively integrate the pertinent new factors into the particular practice setting. Also, physicians are not immune to those afflictions of life that may result in disabling physical, psychiatric, or emotional problems that impair physician competence.

The medical profession addresses new knowledge integration and the technical component of medical competence by a variety of devices such as residencies, fellowships, specialty boards, certification examinations, continuing medical education requirements, and hospital staff reappointments. The system has grown remarkably complex and, even though the process grew like a patch of weeds at the roadside, the arrangement works fairly well despite having a jillion different criteria for different specialties.

Not working as well are our mechanisms for re-assessing fitness in the physician who becomes incompetent after practicing competently for a time. Although Oklahoma has a hallmark program for alcoholic physicians, much of our Oklahoma physician psychopathology is not well addressed. The onset of mental aberration or criminality may well be missed or ignored by Oklahoma's present system of physician supervision.

The OSMA Continuing Medical Education Task Force recently recommended the Oklahoma Board of Medical Licensure and Supervision require Category I hours for relicensure, and the Medical Practice Act of the 1994 Leg-

islature authorized the board to require continuing medical education for relicensure. Thus the legalities are now in place for the board to deny relicensure to those physicians with insufficient continuing medical education as the board shall define the term.

We strongly believe in the value of specialty-specific continuing medical education. Further, we believe that all competent physicians must be continually re-educated. On the other hand, achieving Category I hours is not a guarantee of medical competence, and we must quarrel with the Task Force's statement that CME "...provides evidence of continued competency." Achieving CME hours may establish that the physician desires competence, but the attainment of competence requires an attitude that is above and beyond the mere accumulation of Category I hours. If this recommendation is put in place, achieving CME hours will then provide evidence of a desire for relicensure, and the search for an objective criterion of competence will be lost in the fiscal need for license renewal.

In view of the wide range among the various specialties for the time and type of CME thought to be necessary to maintain competence, we are giving the Board of Medical Licensure a Sisyphean task if they are to condition relicensure on a set number of CME hours for all physicians.

A license to practice medicine is a high privilege and a highly valued property attained after many years of dedicated effort. The Board of Medical Licensure and Supervision is a state political entity so laced with legalisms that clinical evaluations are most difficult for them to perform. The characteristic trait of a good physician is a personal concern for competence that transcends an arbitrary number of logged CME credits.

The attainment of competence requires an attitude that is above and beyond the mere accumulation of Category I hours.

*Ray V. McIntyre, M.D.*



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## Let us reason together...

*The Oklahoma Board of Medical Licensure and Supervision.* To some individuals this has the ring of the "IRS." The OBMLS is perceived by a large number of individuals as a government agency that has a strong national reputation for being punitive toward those individuals for whom it has legislative oversight. The Board is made up of physicians and lay individuals who are appointed by the Governor. The physician members are individuals appointed by the Governor but have been recommended by their respective associations. And when we consider the membership of the Board itself, those individuals are physicians such as we.



As I have written in previous correspondence, the officers of the Oklahoma State Medical Association have recently begun a dialogue with the officers and members of the OBMLS. We've had meetings which have been most helpful and constructive in developing a strong working relationship between our two organizations. We have discussed such subjects as published articles on professional conduct regulations, publication of the OBMLS quarterly newsletter, an opportunity for the Board to engage in a medical student liaison relationship and more adequate physician recovery committee reporting requirements for the Board. I have found that the discussion and the negotiations in these meetings are conducted in an atmosphere of mutual respect and cooperation. I feel extremely encouraged by the direction that these meetings have taken.

I feel, however, that we as individual physicians and members of the Oklahoma State Medical Association need to familiarize ourselves more thoroughly with the exact nature and complexity of the Board itself. In this light, I would like to quote and list for you from a list of 43 items which the Board considers unprofessional conduct. From this list, a few are:

- (1) indiscriminate or excessive prescribing, dispensing or administering of controlled or narcotic drugs;
- (6) dispensing, prescribing or administering a controlled substance or narcotic drug without a medical need;
- (7) the delegation of authority to another person for signing of prescription for either controlled or non-controlled drugs, except as provided in 59 O.S., §519.6D;
- (11) conduct likely to deceive to defraud or harm the public;
- (13) representing to a patient that an incurable condition, sickness, disease or injury can be cured;
- (29) employing abusive billing practices;
- (41) failure to provide a proper setting for medical acts, including, but not limited to examination, surgery or other treatment.

As you can conclude from a sampling from this very extensive list, there are a vast number of reasons for which a physician may be investigated for "unprofessional" conduct.

This long list of oversight regulations clearly defines the far reaching authority of the Board to supervise and monitor our actions as individual practitioners.

With this in mind we are instituting a series of articles to be published in either the *JOURNAL* or the *OSMA News* to more clearly define and understand the OBMLS. I would invite and encourage your serious reading of these articles to more clearly acquaint yourselves with those regulations to which we are held in close scrutiny. If you have any suggestions or recommendations with regard to our affiliation and association with the Board of Medical Licensure and Supervision, I would encourage your input.

The officers of the Oklahoma State Medical Association have recently begun a dialogue with the officers and members of the OBMLS.



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## Pancreatic Adenocarcinoma Presenting as a Splenic Abscess: Case Report and Diagnostic Approach

Richard G. Lastrapes, MD; John R. Parker, MD; Masatoshi Kida, MD

As the fourth leading cause of cancer death in the United States, pancreatic adenocarcinoma is both a diagnostic and a therapeutic challenge. Its incidence has risen in the past four decades so that pancreatic cancer ranks second to colon cancer as a leading cause of death from gastrointestinal malignancy.<sup>1,2</sup> Despite technical and therapeutic advances, the prognosis remains dismal; the average survival time after diagnosis is characteristically only five to eight months.<sup>3</sup> The current patient had a pancreatic adenocarcinoma that mimicked other disorders. Variability in clinical presentation and imaging studies warrants consideration of this entity in the differential diagnoses of many splenic and pancreatic lesions.

### Case Report

A 64-year-old white female presented to our institution complaining of headaches, otalgia, and sinus congestion. These symptoms persisted for several weeks, and were followed by fevers, chills, and sweats. An involuntary seventeen-pound weight loss was reported over a four-month interval. The patient also complained of vague abdominal pain and constipation.

Her past medical history included hypothyroidism, hepatitis B, and ovarian carcinoma (uncertain type resected for "cure" with total abdominal hysterectomy and bilateral salpingo-oophorectomy in 1983). Her family history revealed pancreatic adenocarcinoma in a broth-

er. Although she had remote tobacco usage, she denied alcohol consumption. Physical examination demonstrated a thin white female in no acute distress. Admission vital signs included a pulse of 68 bpm, blood pressure of 84/60 mmHg, and a temperature of 36.2°C. No significant abnormalities were noted on physical examination.

Initial laboratory evaluation revealed: sodium 135 mEq/L, potassium 3.6 mEq/L, albumin 3.2 gm/dl, LDH 137 U/L, ALP 391 U/L, TSH 0.56 uu/ml, and free T4 0.98 mg/dl. The complete blood count showed a white blood count of 27,000 cells/cu mm with 96% granulocytes, 2% lymphocytes, and 2% monocytes. Hemoglobin and hematocrit were 10.3 g/dl and 31.2% respectively. Her platelet count was 412,000 cu mm. Blood cultures and admission chest roentgenogram were negative.

Computerized tomography (CT) scan of the abdomen was performed with a GE Hi Speed RP Scanner. The patient received 600 ml of 1 to 2% barium sulfate suspension (Readi Cat) to opacify the stomach and small bowel. Initially, non-contrast enhanced images were obtained through the abdomen. Subsequently, following administration of ioversol (Optiray 320) with a power injector using a biphasic technique (42 ml @ 2.5 ml/sec and 83 ml @ 0.7-0.8 ml/sec), 10 mm axial tomograms of the abdomen were obtained. CT of the abdomen revealed a heterogeneously enhancing mass in the splenic hilum and along the inferior aspect of the spleen (Fig. 1). Rounded low density lesions were also noted within the spleen (Fig. 2). The pancreas appeared normal and there was no lymphadenopathy (Fig. 3). The uterus and ovaries were not identified concurrent with the

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patient's previous hysterectomy and bilateral salpingo-oophorectomy. The remainder of the abdomen and pelvis were normal. These findings were felt to represent a splenic abscess; however, lymphoma was also a consideration.

The patient received antibiotic therapy for a presumed splenic abscess, but she did not improve and underwent surgery for a therapeutic splenectomy. At surgery, a mass measuring 6.0 cm. in greatest dimension was identified in the distal aspect of the pancreatic tail extending into the splenic hilum. The spleen and pancreatic tail were excised en bloc.

The spleen weighed 235 grams and measured 11×7×5 cm. A small portion of pancreatic tail was attached to the specimen. The spleen was serially sectioned. A white, light tan irregular mass measuring 6.0×5.0×3.5 cm. extended from the tail of the pancreas into the splenic hilum and infiltrated the adjacent spleen, pancreas, and fibroadipose tissue. The central tumor was firm and edematous. No necrosis or hemorrhage was evident. The surrounding pancreatic and fibroadipose tissue had small satellite tumors varying from 0.3 to 1.0 cm in maximum dimension. Histologic examination revealed a high grade adenocarcinoma arising in the tail of the pancreas. No vascular invasion was noted.

The patient's postoperative course was complicated by a sterile fluid collection anterior to the left lobe of the liver. The patient was evaluated for radiation therapy with adjuvant chemotherapy (5-FU). Her continued care has been out of town.

### Discussion

Pancreatic adenocarcinoma most frequently occurs in the head (60-70%) and least often in the tail (12%).<sup>4</sup> Its incidence is highest in blacks, males, and diabetics.<sup>5</sup> Risk factors include smoking (1.5× higher than nonsmokers), high fat diets, and partial gastrectomy (possibly due to increased formation of N-nitroso compounds by bacteria).<sup>5</sup> Several hereditary disorders that predispose individuals to pancreatic cancer include hereditary pancreatitis (autosomal dominant), Lynch syndrome II (autosomal dominant), von Hippel-Lindau syndrome (autosomal dominant), ataxia telangiectasia (autosomal recessive), and families with autosomal dominant transmission of pancreatic cancer.<sup>6</sup> Presenting symptoms may include obstructive jaundice (suggesting pancreatic head involvement), weight loss, abdominal pain, nausea, vomiting (due to gastric outlet obstruction), weakness, anorexia and, less often, migratory thrombophlebitis (Trousseau's syndrome).<sup>5,7</sup> Characteristically, carcinoma in the

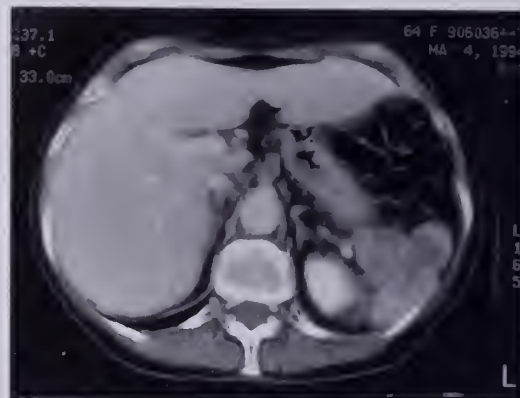


Figure 1. CT of the abdomen revealed a heterogeneously enhancing mass in the splenic hilum and along the inferior aspect of the spleen.

pancreatic tail tends to be larger at presentation, and signs of advanced malignancy such as contiguous organ extension, vascular invasion, and metastatic disease are usually present. These tumors can impinge on adjacent structures including the vertebral column, the spleen or left adrenal gland, the transverse colon, or stomach.

The current choice for imaging and staging pancreatic carcinoma is high resolution, dynamic CT scan. Studies report accuracy rates of 72% in predicting resectability, and an accuracy rate of 100% in predicting tumor unresectability.<sup>8</sup> To obtain optimal results, intravenous (IV) contrast should be infused with a power injector using a uniphasic (2.5 ml/sec) or biphasic (2.5 ml/sec for 20 seconds and 1 ml/sec for 100-130 seconds) injection and contiguous thin section (3-5 mm) images should be obtained through the pancreas.<sup>8</sup> Typically pancreatic carcinoma appears as a hypodense mass distorting the contour of the gland with variable enhancement after IV contrast administration. Necrosis within the tumor may be seen. Other findings include obstruction of the common bile duct and pancreatic duct as well as atrophy of pancreatic tissue beyond the tumor.<sup>9</sup> Pancreatic duct dilatation is commonly seen if the primary tumor is located in the head or body of the pancreas. Peripancreatic changes such as lymphadenopathy and vascular involvement are important clinical findings.

Magnetic resonance imaging (MRI), standard transabdominal ultrasound, endoscopic ultrasound and angiography have less significant roles compared with CT in staging and detecting pancreatic carcinoma; however, these above modalities can be valuable staging techniques in patients in whom an optimal dynamic contrast enhanced CT cannot be obtained.<sup>8</sup> The role of MRI in staging and detecting pancreatic malignancy has not yet been established. Recent technical ad-

The current  
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Figure 2. Rounded low density lesions were also noted within the spleen.



Figure 3. The pancreas appeared normal and there was no lymphadenopathy

vances using respiratory motion artifact compensation techniques, fat suppression, breath held contrast-enhanced images with T1 spin echo and gradient echo sequences have improved the ability to image the normal and abnormal pancreas.<sup>8</sup> Multicenter studies with MRI are likely to provide useful information in the near future.

Endoscopic ultrasound is a relatively new technique and displays the anatomy of the pancreas, pancreatic and biliary ducts, and peripancreatic vessels in good detail. It has an accuracy of 75 to 92% in predicting tumor unresectability.<sup>8</sup> Nevertheless, it is limited by not being able to detect liver or peritoneal disease. Furthermore, it requires special expertise and is not widely available.<sup>10</sup> Standard transabdominal ultrasonography is capable of showing many pancreatic lesions, as well as extrapancreatic involvement. However, it does not always visualize the whole pancreas and is not as reliable as CT in showing important extrapancreatic sites of spread.

Angiography is reserved often to provide the surgeon with a vascular "road map" prior to resection. It also is valuable in staging potentially curable tumors of the pancreatic head. With the advent of CT, angiography now plays a less significant role in the workup of pancreatic carcinomas.

Endoscopic retrograde cholangiopancreatography (ERCP) has become an important modality in the diagnosis of pancreatic adenocarcinoma, and is often used in conjunction with ultrasound, CT, MRI, and angiography.<sup>11</sup> Common findings with ERCP in pancreatic carcinoma include encasement and obstruction of the main pancreatic duct and common bile duct, leading to ductal dilatation. This is referred to as the double duct sign, which is a classic finding with pancreatic carcinoma, particularly involving the pancreatic head.<sup>11</sup> ERCP is often used for when the cause and

the location of the obstruction remains uncertain after CT.<sup>7</sup>

Several entities simulate pancreatic cancer in the splenic hilum and pancreatic tail, including splenic abscess, accessory spleen, pancreatic pseudocyst, pancreatitis, gastric neoplasm, lymphadenopathy, lymphoma, renal cyst or mass, and other nonpancreatic neoplasms.<sup>12</sup>

A splenic abscess is associated with sepsis in 80% of patients. Common organisms causing infection are gram positive cocci, enterococci, bacteroides, and candida (especially in immunocompromised patients). A common bacteria in sickle cell patients is salmonella.<sup>13</sup> Typically, a splenic abscess is seen as a low density lesion on CT scan which often does not enhance with IV contrast. Postcontrast edge rim enhancement has been reported.<sup>13</sup> Three patterns of splenic infection are seen on CT scan: single round peripherally located defects, large or multiple round/oval lesions, and multiple lesions with subphrenic fluid.<sup>13</sup>

Accessory spleens are congenital duplications of splenic tissue in an ectopic location. They are found in about 10 to 30% of normal individuals and are structurally identical to the spleen being derived from mesenchymal buds on the left side of the mesogastrium.<sup>14</sup> Most are seen in the splenic hilum and in the tail of the pancreas. On CT, accessory spleens have the same density as normal splenic tissue. Confirmation of accessory spleens can be achieved with a 99m Tc-labeled sulfur colloid radionuclide scan.<sup>15</sup>

Pseudocysts resulting from pancreatitis are the most common pancreatic cysts and usually are associated with acute and chronic pancreatitis.<sup>15</sup> The majority of pancreatic pseudocysts are located within the pancreas, but they can also be in atypical locations, such as the peritoneum, retroperitoneum, liver, spleen, and mediastinum (through the esophageal hiatus).<sup>4</sup> CT typically

Pseudocysts resulting from pancreatitis are the most common pancreatic cysts and usually are associated with acute and chronic pancreatitis.



Careful consideration should be given to pancreatic cancer in the differential diagnosis of splenic hilar lesions.

demonstrates fluid-filled cysts (0-30HU, and, rarely, calcification. Inflammation of the pancreas leads to disruption of pancreatic ducts, resulting in leakage of pancreatic secretions. These pancreatic enzymes can digest through fascial planes and spread to multiple compartments.<sup>15</sup> There are many etiologies of acute pancreatitis which include ethanol abuse, obstructing biliary stones, trauma, as well as metabolic and hereditary predispositions. Acute pancreatitis is a diagnosis made clinically, but often imaging is used to clarify the diagnosis when the clinical picture is unclear, or to recognize complications of the disease process. CT typically reveals focal or diffuse enlargement of the pancreas, decreased density due to edema, and indistinctness of the margins due to inflammation.<sup>15</sup> Peripancreatic inflammatory changes are also seen. One of the more common complications is a pseudocyst.

Gastric neoplasms, lymphadenopathy (e.g., lymphoma, metastatic disease), and renal neoplasms as well as many other tumors can present as masses in the pancreatic tail/splenic hilum. There are often secondary findings by CT which help in suggesting the specific diagnosis.

### Conclusion

This patient had radiolucent foci within the spleen on CT examination, mimicking an inflammatory process. However, the postoperative examination revealed a high grade adenocarcinoma in the tail of the pancreas extending into the splenic hilum. Since malignancies in the tail of the pancreas tend to be clinically silent, careful consideration should be given to pancreatic cancer in the differential diagnosis of splenic hilar lesions. □

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## Vasoactive Intestinal Peptide and Nerve Growth Factor Effects on Nerve Regeneration

Ghazi M. Rayan, MD; Calvin Johnson, MD; Jan Pitha, MD; Sandy Cahill, RN; Sami Said, MD

Sixty rat sciatic nerves were used to study the effects of vasoactive intestinal peptide (VIP) and nerve growth factor (NGF) on nerve regeneration. They were divided into three groups. Groups 1 and 2 were treated with VIP and NGF, respectively, after dividing the nerves without repair and placing them in silastic chambers. Group 3 served a control. The rate and quality of nerve regeneration were compared among the groups using caliper measurements and histologic evaluation. Both VIP and NGF groups showed an enhanced rate of regeneration at three weeks as compared to controls ( $p < 0.05$ ). The quality of nerve regeneration histologically and by axonal counting was not significantly different among the three groups, except for the presence of less vascularity in the VIP as compared with the NGF group. In addition to NGF, VIP appears to increase the rate of nerve regeneration as compared to controls.

Vasoactive intestinal peptide (VIP) was discovered and isolated in 1970 by Said and Mutt.<sup>1</sup> Its neurotransmitter function, vasodilator action, and identification as a neuropeptide with extensive distribution in the central and peripheral nervous systems has been published in subsequent reports.<sup>2-3</sup>

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The existence of nerve growth factor (NGF) was first reported by Levi-Montalcini and Hamburger<sup>4</sup> in 1951. They identified NGF as a neurotrophic protein that supported survival and elicited neurite outgrowth from sympathetic and sensory ganglionic neurons. It is isolated from the submaxillary glands of mice and other tissues, but little is known about its physiological source *in vivo*. Prior to the discovery of NGF, research in the area of nerve regeneration was based on the advantages of exact matching of the divided nerve ends. The discovery of NGF advanced the study of nerve regeneration and modern neurobiology research. It is now believed that the quality of nerve regeneration is influenced by various cellular and humoral factors, many of them so far of unknown nature. This study was designed to investigate the effects of VIP and NGF and compare their influence on the rate and quality of nerve regeneration.

### Materials and Methods

Sixty sciatic nerves of 30 Sprague-Dawley outbred rats were used. Following anesthesia with pentobarbital (Nembutal), a dorsal curved incision was made over the proximal thigh. Using loupe magnification and microsurgical technique, the sciatic nerves on both sides were exposed through a muscle splitting incision. A 3 cm segment of nerve was identified and divided sharply 15 mm distal to the hip and around the mid-thigh level. A 10 mm segment from the nerve was excised leaving a 12 to 15 mm gap. Proximal and distal nerve ends were introduced into the openings of a 3×20 mm silicone tube. Each nerve end

Table 1. Nerve Gap and Skin Changes

Rat #	Right	Left	Trophic Skin Changes
<b>Group 1</b>			
1	10	10	-
2	10	10	-
3	10	10	-
4	10	10	+
5	10	10	+
6	10	10	+
7	*	*	*
8	10	10	+
9	10	10	+
10	10	10	+
MEAN: 10.0			
<b>Group 2</b>			
11	10	10	+
12	10	10	+
13	*	*	*
14	0	10	-
15	10	9	+
16	10	10	-
17	10	10	-
18	10	10	+
19	10	10	-
20	10	10	-
MEAN: 9.9			
<b>Group 3</b>			
21	6	7	+
22	5	6	-
23	0	5	-
24	8	7	+
25	6	5	-
26	7	9	-
27	4	5	-
28	3	5	+
29	5	0	-
30	7	6	-
MEAN: 5.9			
The gap between proximal and distal stumps in millimeters, and skin changes in the anesthetic feet (+ present - absent * animal died) at 3 weeks.			

was held in place maintaining the same gap with one 9-0 nylon epineurial suture placed into the wall of the silicone chamber.

The animals were divided into three equal groups. In Group 1, .05 mcg of VIP was injected with fine needle and syringe into the midportion of each silicone tube twice, initially and three weeks later. This small amount was sufficient to fill the gap and did not create a pressure effect within the chamber. In Group 2, .05 mcg of NGF was injected in the same manner into the mid-

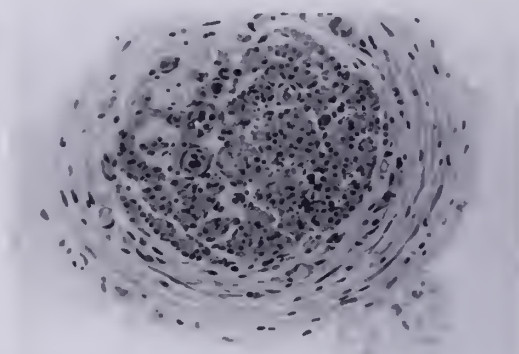


Figure 1. Cross section of regenerated nerve from Group 1 showing epineurial fibrosis (graded 1+), endoneurial fibrosis (1-2+), cellularity (2+), vascular proliferation (1+), and myelin sheath proliferation (2+) 80%.

portion of the silicone tubes initially and at three weeks. The pharmacologic dosage was determined by one of the coauthors (SS) from previous experience working with these agents. Group 3 served as a control with the identical procedure, but using the same volume of saline injection. The skin incisions were closed with 2-0 wire.

A second procedure was necessary to ensure nerve migration and provide additional medication. At the time of the second injection all wounds were opened and proximal nerve stump migration was assessed. Calipers were used to measure the distance between the proximal front of the regenerating axons and distal stump on both sides of the thin central matrix. All animals were euthanized at 6 weeks; the entire nerve segment (25-30mm) was then removed and placed in 10% neutral buffered formalin for histological examination. Only the regenerated nerve segment (20 mm) within the chamber was examined without the normal proximal and distal portions.

The specimens were embedded in glycol methacrylate using a historesin embedding kit. Transverse sections one micrometer thick were made, and hematoxylin and eosin stains were used. The inner (excluding the regenerated epineurium) and outer (including the epineurium) diameters for each nerve were obtained with maximum and minimum values for each measurement. The nerve sections were measured using the digitizing table with an interactive computer system (Zeiss Videoplan V, Zeiss-Kontron, West Germany). Histologic sections were evaluated and scored in a blind fashion on a grading scale of 1 to 3. Epineurial fibrosis: Grade 1 epineurial cells are separated by layers of collagen < 5 cells thick; Grade 2 layers are between 5 and 10 cells thick; and Grade 3 layers are > 10 cells thick. Endoneurial fibrosis: Grade 1 spaces between

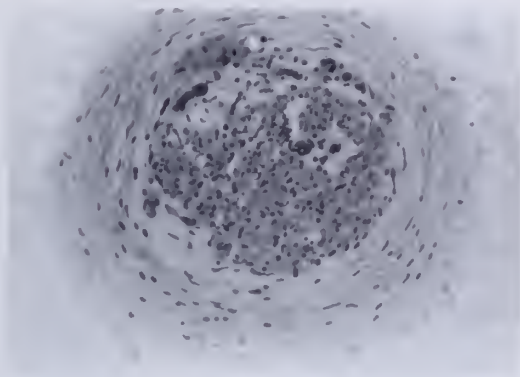


Figure 2. Cross section of regenerated nerve from Group 2 showing epineurial fibrosis (graded 3+), vascular proliferation (1+), and myelin sheath proliferation (2+) 80%.

fibers are < 2 fibers wide; Grade 2 spaces are between 2 and 3 fiber widths; and Grade 3 spaces are > 3 times as wide as a fiber. Cellularity: Grade 1 has a few nuclei other than Schwann cells or fibroblasts and accounts for 2% of all nuclei; Grade 2 has between 2% and 10% of these nuclei; and Grade 3 has > 10% of nuclei. Vascularity: Grade 1 has narrow < 20 capillaries in a nerve cross section (excluding epineurium); Grade 2 has between 20 and 25 vessels; and Grade 3 has > 30 vessels. Myelin regeneration: Grade 1 has myelinated nerve fibers in less than one-third of the cross section. Grade 2 has these fibers in between one-third and two-thirds; and Grade 3 has fibers in over two-thirds. Intermediate grades (0.5-2.5) were often assigned and averages were calculated for each group. Analysis of variance and Duncan's multiple range test for variable were used.

Additionally, plastic sections for axonal staining were impregnated with modified Bielschowsky method.<sup>5</sup> Axons were counted at 1000 $\times$  magnification using oil immersion objective (NA 1.25) eye piece and grid with square field (0.18 mm<sup>2</sup>). The measurements were made using digitizing tablet and objective micrometer.

Sections from regenerated nerve segments (20 mm) within the chambers were stained for axons and evaluated in a blind fashion for axonal density and distribution. A minimum of three specimens were counted from each group, and four fields were evaluated in each section.

## Results

Two rats died from anesthesia-related complications, one each from Group 1 and 2. Five days following surgery, skin ulcers were observed in six animals on the insensate feet secondary to self-inflicted bites. The ulcers developed in spite of

Table 2. Inner (B) and Outer (A) Nerve Diameter in Millimeters

Group		Mean	Max.	Min.
1	A	.51	.95	.14
	B	.35	.65	.02
2	A	.43	.67	.17
	B	.31	.61	.08
3	A	.46	.92	.14
	B	.32	.65	.05

using plastic cages and saw dust at the bottom. These ulcerative lesions were noted in all groups; a total of 13 animals were affected at 3 weeks, six in Group 3 (controls) and 7 in Groups 1 (VIP) and 2 (NGF) combined (Table 1). These gradually resolved, with fewer lesions seen in Group 1 animals than the NGF and control groups. All lesions had resolved in six weeks.

At three weeks, the sciatic nerves of Groups 1 and 2 had a mean growth length of 9.9 mm and 10 mm, respectively, compared to 5.9 mm for the control group (Table 1). The difference between Groups 1, 2, and 3 was statistically significant ( $p < 0.05$ ). At six weeks, all nerves had regenerated enough to close the entire gap and measurements were not necessary. A monofascicular cord of neural tissue developed and a thick connective tissue layer of fibroblastic cells similar to epineurium formed around the regenerated segment (Fig. 1 & 2). This layer was found to be more developed in VIP treated nerves as compared with controls. The inner and outer nerve diameters were measured in each group.

The difference reflects the amount of connective tissue that developed around the regenerate nerve segment. The mean inner and outer diameter and the difference were 0.35 mm and 0.51 mm (0.16 mm) for Group 1; 0.31 mm and 0.43 mm (0.12 mm) for Group 2; and 0.32 mm and 0.46 mm (0.14 mm) for Group 3 (Table 2). No differences between Groups 1 and 2 were found regarding endoneurial fibrosis, intraneural cellularity, or myelin sheath proliferation. Group 1, however, showed higher measurements for the numbers of myelin sheath present than the control group and epineurial fibrosis than both Groups 2 and 3 (Table 3). Group 1 also showed significantly less vascularity than Group 2 (Grade 0.5 and 2 respectively) (Fig. 3). The average axonal count for each field was 91 for Group 1, 95 for Group 2, and 96 for Group 3. No differences were found among the groups.



Table 3. Histologic Evaluation

Group	Ep	En	In.	Vas.	MS
1	2.14	1.714	1.63	.86	2.4
2	1.81	1.39	1.80	1.65	2.11
3	1.74	1.82	1.65	1.30	2.2

Ep = Epineurial cellularity fibrosis. En = Endoneurial cellularity fibrosis. In = Intraneurial cellularity. Vas = Vascularity. MS = myelin sheath.

### Discussion

The nerve regeneration model used in this study was developed by Lundborg, Longo and Varon.<sup>6</sup> Studies by Lundborg et al<sup>6-10</sup> using an *in vivo* model showed that when a divided rat sciatic nerve is placed in a cylindrical silicone chamber with approximately a 10 mm gap, nerve regeneration will occur. The proximal stump will regrow toward the distal stump. In the first few days clear fluid will fill the chamber; later a cord-like structure will surround the clear fluid. Eventually an organized multifascicular nerve trunk forms between the proximal and distal stumps. They also showed that the early accumulated clear fluid contains neurotrophic factors. These factors, including NGF ensured *in vitro* neuronal survival and growth of axons. The neurotrophic activity was toward sensory, motor, and sympathetic fibers. In this study the use of this model was advanced by manipulating the silicone chamber environment and introducing NGF and VIP to study their effect on nerve regeneration.

Giachetti and Said<sup>11</sup> observed increased VIP accumulation proximal to ligated nerve segments as compared to controls. Atkinson and Shehab<sup>12</sup> observed a VIP increase in the spinal cord after

peripheral axotomy. Studies from the authors' institute document an increased VIP concentration in the primate median nerve following induced compression neuropathy<sup>13</sup> and increased levels of VIP concentration in the proximal stumps of divided rat sciatic nerves as compared to controls.<sup>14</sup> These studies suggest that intrinsic VIP accumulation occurs in response to nerve injury, and its transport is mainly by anterograde fashion. The current study investigated the effect of extrinsic VIP, along with a known neurotrophic agent NGF on nerve regeneration. Local administration of these factors was chosen because the major route of entry of NGF into neurons is by uptake at the terminal nerve endings followed by retrograde transport.<sup>15,16</sup> There was some concern about administering these factors more than twice because of possible excessive scarring from repeated surgical trauma; percutaneous or systemic administration would have been another alternative, but they do not ensure delivery of the factors within the chamber.

In this study the Group 1 (VIP) and Group 2 (NGF) showed more healing of trophic skin changes at three weeks in the hind extremities as compared with Group 3 (controls). Additionally Groups 1 and 2 showed a significantly greater rate of nerve regeneration at three weeks compared to controls, as manifested by the mean growth in length of the regenerating nerve trunk. Group 1 showed increased myelin sheath proliferation over Group 3, greater epineurial proliferation than both Groups 1 and 3, and a decrease in vascularity as compared to Group 2. Axonal counting, however, did not show differences among three groups. In this study, a monofascicular nerve cord and thick connective tissue framework of fibroblastic cells similar to epineurium developed around the regenerated nerve segment.

It is possible that the outer epineurial-like envelope represents to some extent a reactive fibrosis to the silastic chamber.

Lundborg and Hansson<sup>8</sup> showed that an external epineurial-like sheath develops in regenerating rat sciatic nerve within pseudosynovial tubes. The inner and outer diameters of the regenerating nerves were measured; this layer was found to be more developed in Group 1 treated nerves, suggesting that this neurotrophic factor may influence the process of fibroblastic proliferation. The neuronal and non-neuronal proliferation effect of VIP may be mixed, having both favorable and adverse effects on the ultimate nerve recovery. The rate of nerve regeneration was enhanced in both VIP and NGF treated animals as compared with controls. Further research

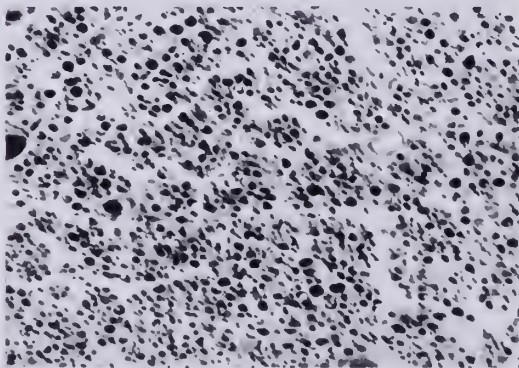


Figure 3. Cross section of regenerated nerve from Group 1 showing regenerated axons (Bielschowsky stain).

should be dedicated toward the future clinical use of neurotrophic factors for the purpose of enhancing nerve regeneration.

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## A Statewide, Toll-Free Telephone Service to Improve Obstetric Care

William F. Rayburn, MD; Warren M. Crosby, MD; Gary R. Thurnau, MD; John I. Fishburne, MD; John R. Stanley, MD; Fred H. Coleman, MD

The University of Oklahoma Health Sciences Center began in 1993 to provide a statewide, toll-free telephone service for pregnancy counseling to primary care physicians. The service was available 24 hours each day, and responses were made by the on-call maternal-fetal medicine specialist. This report summarizes our first full year of operation. Inquiries came from 34 (63%) of the state's 54 counties having physicians who provide obstetric care. One hundred twenty-eight physicians made 523 inquiries (median 3, range 1-15). Information was sought about prenatal genetic disorders, risks from drugs, exposure to infection, environmental hazards, and active obstetric or medical complications. Funds from targeted ultrasounds, genetic amniocenteses, more detailed counseling, and maternal transfers provided support for this expanding educational resource.

With the growing emphasis on improved prenatal care, it has become necessary to provide more accurate information to pregnant women about risks to themselves and their unborn infants. Patients frequently seek advice about pre-existing or newly acquired medical or obstetric complications, prenatal genetic conditions, and exposure to potential teratogens. Efforts by

busy clinicians to locate specific information is time-consuming and often frustrating.

As an attempt to improve prenatal care, a statewide counseling program was instituted at the University of Oklahoma in 1993. Accurate and in-depth information was provided to interested physicians using a toll-free telephone service. Personnel in the maternal-fetal medicine section of the Department of Obstetrics-Gynecology replied to these inquiries. Partial financial support was originally from a grant by the Presbyterian Health Foundation, Oklahoma City. The telephone consultation was provided at no cost to the requesting physician.

Response to this consultative service has been positive, and a report of the first full year of operation is presented here. A description of recommendations for specific conditions is beyond the scope of this report and may be gathered from references used by the service.<sup>1-9</sup>

### Materials and Methods

Announcements about the service were distributed in October 1992 to 78 obstetricians-gynecologists in Oklahoma. By May 1993, 63 family physicians known to care for pregnant patients had been also notified about the telephone service. The toll-free telephone line was monitored 24 hours daily. A receptionist or answering service transferred the call to the on-call maternal-fetal medicine faculty member. Current textbooks or articles within the counseling service library were often cited.

A telephone conversation was usually all that was required. Additional replies were made when

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further advice to patients was necessary. Summary letters were sent to the inquiring physician when appropriate.

The cost of the telephone answering service was approximately \$768 annually. Funds were generated from select patient referrals for either further counselling, performing a targeted ultrasound or an amniocentesis, or from inpatient transfers.

## Results

The counselling service received 523 telephone calls in 1994 from 128 physicians (median 3, range 1 to 15 calls per physician). Four hundred eighty one (92 %) calls were during regular weekday working hours (8 AM to 5 PM, Monday through Friday). Inquiries came from 34 (63%) of the 54 counties in which access by patients to some form of obstetric care (complete or limited) was possible. This represented a widespread distribution of counties throughout the state (Fig. 1).

The most common inquiries related to obstetric complications (204, 39%), especially when preterm delivery was anticipated. Obstetric or medical complications requiring maternal fetal medicine attention included premature labor, vaginal bleeding, habitual abortion or unexplained stillbirths, blood group sensitivities (anti-D, anti-Kell), abnormal fetal ultrasound findings, uterine abnormalities (leiomyoma, incompetent cervix), and management difficulties of diabetes, seizures, asthma, and hypertension.

One-third (177, 34%) of all queries pertained to prenatal genetics disorders, occurrence risks of fetal chromosomal abnormalities, families with a prior affected infant, or family history of genetic disorders. Drug-related questions (54, 10%) dealt with "cold" preparations, antibiotics, antidepressants, and anticonvulsants. Inquiries about environmental hazards (44, 8%) related to paint fumes, chemicals in the work place, and contaminants in well water. Vaccinations and exposures to rubella, parvovirus, and varicella were the primary concerns about prenatal infections (27, 5%). Questions about fetal alcohol syndrome were the most common dealing with substance abuse (17, 3%).

One hundred ninety-three (37%) calls led to further evaluation and treatment after referral to the University of Oklahoma Health Sciences Center (OUHSC). With few exceptions, outpatients were seen within one week or sooner when deemed urgent by the referring physician. Examples of complications requiring outpatient evaluation included severe fetal growth retardation, oligohydramnios, low or persistently elevated maternal serum alpha-fetoprotein (MSAFP) deter-

minations, and present or prior fetus with a suspected anomaly. Pregnancies complicated by preterm labor, preterm ruptured membranes, or hypertension accounted for the majority of the 42 maternal transfers accomplished through this information network.

## Discussion

This report reviews the progress of a newly implemented, statewide counselling service as an educational resource for primary care physicians practicing obstetrics. The program was begun by a state university to meet the needs of improving obstetric care in a principally rural state. The original intention was to provide prenatal counselling, but more inquiries about future childbearing were received as the program became better recognized.

As confidence was gained with the service, referring physicians gave the telephone number to their nurses or nurse practitioners so they could seek advice directly. Reassurance was often all that was necessary, thereby avoiding a trip by the patient to another healthcare provider. Further evaluation at our prenatal assessment center, in select cases, was done in a timely manner with better knowledge as to the reason for referral and any pre-existing laboratory test data which did not require repeating.

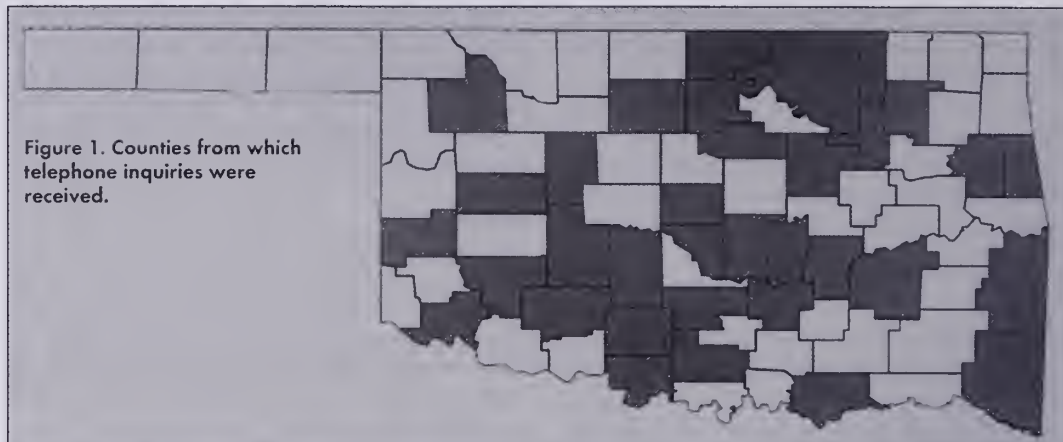
As the service became better recognized, questions about medications, infections, and environmental hazards became more apparent. This trend prompted the program to expand with the development of the Oklahoma Teratogen Information Service (OTIS), which is closely affiliated with the Great Plains Perinatal Network and Reprotoxicology Information Service. A computer data base, REPROTOX, was used.<sup>10</sup>

This report does not include telephone calls from referring physicians to our office or labor and delivery unit. The numbers of those calls seemed to remain the same. The number of maternal transfers from this telephone service represented only a small proportion of all maternal inpatient transfers. It was surprising that more telephone calls were not received during nights and weekends. A benefit of this analysis was to identify the 20 counties in which obstetric care was provided but from which no telephone consultation requests were received. Physicians in those counties will be encouraged to use this toll-free consultation service.

The authors believe that this innovative program has strengthened the relation between the university's College of Medicine and the state medical community. Many physicians have expressed appreciation for the prompt manner in

This report reviews the progress of a newly implemented, statewide counselling service as an educational resource for primary care physicians practicing obstetrics.

Figure 1. Counties from which telephone inquiries were received.



which they have received information about controversial clinical issues. Conversely, personnel with prenatal diagnostic or maternal-fetal medicine backgrounds have become better acquainted with a broader variety of patient concerns. Their subspecialty training and teaching expertise were used to greater advantage without the need for them to leave their office or clinic.

Another feature of this counseling service has been its independence from grant support. Financial assistance from patient referrals has made this expanding project a self-sufficient asset to the institution.

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## The ABCs of Chronic Hepatitis: Reason Out of Confusion

D.H. Van Thiel, MD

Chronic hepatitis is defined as a condition in which liver injury tests (aminotransferases or cholestatic enzymes such as alkaline phosphatase) are abnormal on several occasions (usually determined monthly) for more than 6 months. The causes or the disease processes that can lead to chronic hepatitis are numerous, making the diagnosis and particularly the evolution of patients with chronic hepatitis difficult or even mystical for those who do not identify themselves primarily as hepatologists.

It is for these latter individuals (the bulk of practicing gastroenterologists and physicians in other primary fields) that the following editorial is written. It is hoped that a structured approach to the problem of chronic hepatitis will enable these physicians to make decisions concerning specific disease etiologies and, as a result, medical therapies for chronic hepatitis for their patients and that these decisions be both rational and simple. The system to be presented has been utilized by the author for over a decade and has been found to be very useful in training medical and surgical house officers as well as gastroenterology fellows and has been equally useful for the faculty of gastroenterology and hepatology programs. It is currently being used in Oklahoma at the Oklahoma Transplantation Institute and Hepatic and Digestive Diseases Center of Baptist Hospital in Oklahoma City.

The first step in the evaluation of an individual with chronic hepatitis is to determine whether the patient has primarily a chronic hepatocellular disease or a chronic cholestatic disease process. The initial segregation of patients into either of these two pathologic disease groups is based on the pattern of the abnormal liver injury tests (early disease) but can be based also upon the functional consequences of the hepatic injury (late disease) as shown in Table 1. It should be recognized from the onset that few if any hepatic diseases are purely hepatocellular or purely cholestatic in nature but that in general one pattern of injury or disease progression exceeds the other and enables this distinction to be made. Once this dichotomization of individuals into either hepatocellular or cholestatic disease processes is made, the differential becomes much smaller and manageable as shown in Table 2. As can be seen in Table 2, once a segregation of cases into those occurring in adults and those occurring in children is made for those with cholestatic disease, the differential becomes limited to five or fewer potential, specific problems in any given case. Even this markedly reduced differential can be reduced further with the identification of simple, obvious, and/or historical facts. Specifically, primary biliary cirrhosis (PBC) is much more common in women than men and is associated, in greater than 90% of cases, with a positive anti-mitochondrial antibody reaction. Sixty-five percent of cases with primary sclerosing cholangitis (PSC) have an associated inflammatory bowel disease, either chronic ulcerative colitis (80%) or Crohn's colitis (20%). Moreover, patients with

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**Table 1. Chronic Hepatitis: Clinical and Biochemical Characteristics**

Hepatocellular Disease	Cholestatic Disease
A) Predominant ALT or AST abnormality Lesser alkaline phosphatemia	A) Predominant finding is cholestasis Elevated alkaline phosphatase Hyperbilirubinemia occurs earlier and is more severe
B) Late in the disease, Synthetic failure is common with abnormal prothrombin time Low urea nitrogen Low albumin level	B) Synthetic function well-maintained until late in the course
C) Portal hypertension occurs earlier Hepatic encephalopathy and variceal bleeding, both are common	C) Portal hypertension and encephalopathy are signs of advanced disease occurring late in the natural history
D) Liver size is variable	D) Liver size is large
E) Other signs/symptoms: Pruritus unusual until quite late Hypocholesterolemia common No xanthelasma No osteodystrophy	E) Other signs/symptoms: Hypercholesterolemia Xanthelasma Osteodystrophy

**Table 2. Differential Diagnosis of Chronic Hepatitis**

Hepatocellular Disease	Cholestatic Disease
1. Adults and Children  CH-A (autoimmune) CH-B (HBC) CH-C (HCV) CH-D (drugs) CH-E (ethanol) CH-F (familial/inheritable) CH-I (idiopathic)	1. Adults  Primary Biliary Cirrhosis (PBC) Primary Sclerosing Cholangitis (PSC) Pseudosclerosing Cholangitis Cryptococcoses Sarcoidosis Hepatic intra-arterial chemotherapy complications Formalin exposure of the biliary tree CMV or less often cryptosporidiosis in HIV or other immunocompromised individuals Secondary biliary cirrhosis Caroli's disease  2. Children  Biliary atresia Biliary hypoplasia syndrome Byler's disease Choledochal cyst/Caroli's disease Congenital hepatic fibrosis

PSC are more likely to be male than female (ratio 8:5). Patients with pseudosclerosing cholangitis typically have some other clinical clue that can be used to identify them as such including evidence for immunosuppression (endogenous or exogenous), a history of HIV infection, prior surgery or hepatic intra-arterial or intrabiliary instillation of cytotoxic drugs in the treatment of cancer, or hepatic echinococcal disease.

The same situation is true for children. Those with biliary atresia and biliary hypoplasia present early with neonatal cholestasis that is progressive. In contrast, those with a choledochal cyst or Caroli's disease have intermittent jaundice, recurrent episodes of cholangitis and occasionally, a palpable abdominal mass (the cyst itself) that is identifiable. Congenital hepatic fibrosis, on the other hand, is typically asymptomatic and clinically silent until years later when either an associated condition (multi- or polycystic disease) or portal hypertension becomes evident.

The differential for hepatocellular diseases that contribute to the syndrome of chronic hepatitis is more complex and, as a result, it is more difficult to distinguish between the various disease processes unless one can reduce them to a manageable number of related entities as shown in Table 2. In this system, there are seven major categories of chronic hepatitis (CH) due to hepatocellular disease processes consisting of categories A through F and I. This simple alphabetic approach to the classification of CH due to hepatocellular disease guarantees that no specific disease entity will be missed when one attempts to categorize a given patient.

Category A, or CH-A, consists of those with autoimmune (A) liver disease. The identification of a patient as belonging to Category A not only identifies a specific pathology as being responsible for the disease process, but also identifies the categorical therapy for the patient, specifically immunosuppressive therapy (Table 3). These patients are seropositive for one or more autoantibodies that can be used to subclassify them if desired. The particular immunosuppressive agent to be used, be it cyclosporine, tacrolimus, glucocorticoids, azathioprine, methotrexate, cyclophosphamide or some other agent, is a matter of physician choice and experience with a particular agent.

Category B, or CH-B, consists of those with viral liver disease identified as being due to HBV. This category also includes those with Delta plus B. Specific serologic and molecular biologic test procedures enable specific agent identification of these cases possible. Again, the categorization of a patient as being in the CH-B group identifies the preferred therapy as well as the etiologic agent

**Table 3. Ideal Therapy for Various Types of Chronic Hepatitis**

Category	Therapy
CH-A	Immunosuppression
CH-B	Antiviral agents
CH-C	Antiviral agents
CH-D	Drug withdrawal
CH-E	Ethanol abstinence
CH-F	Disease specific therapy where possible
CH-I	Unknown

responsible. Specifically, those having viral liver disease should be treated with an antiviral agent be it interferon, thymosin  $\alpha$ , or some other agent such as ganciclovir.

Category C, or CH-C, consists of those with viral liver disease identified as being due to HCV. As is the case with CH-B, specific serologic and molecular biologic test procedures enable specific agent identification of those cases possible. Again, once the categorization of a patient to the CH-C group is made, the therapeutic options available for treatment become evident and are in general similar to those available for CH-B.

CH-D identifies cases with drug (D)-induced chronic hepatitis. These individuals are more typically women over 40 who may or may not also manifest autoantibodies such as ANA but have a history of exposure to a drug known to cause chronic hepatocellular liver disease. Examples are INH, Furadantin, alpha methyl dopa (Aldomet), antifungal agents, and a host of other agents that currently exist in the pharmacopeia. With the steady growth in pharmaceutical research, this category is likely to continuously expand with time. The therapeutic goals for individuals assigned to this category are withdrawal of the offending drug and replacement with a drug for the same purpose that is known not to be hepatotoxic.

CH-E identifies a group of patients with a unique drug-associated chronic hepatitis, that which is due to ethanol (E). As was the case with those assigned to CH-D, those assigned to CH-E require drug withdrawal (alcohol abstinence) and often also need psychological counseling concerning their addiction, if alcoholism is diagnosed, as will be the case in most cases assigned to this category. Moreover, because ethanol is toxic for a large number of other tissues, an assessment and specific treatment of alcohol-injured organs other than the liver may be indicated in specific cases. In general, the specific therapy is ethanol abstinence but in some cases,

the administration of thiamine and other agents such as vitamins, an increase in protein intake and other therapies, may be important in obtaining a successful outcome.

CH-F identifies those with familial forms of chronic liver disease such as Wilson's disease; hemochromatosis, and  $\alpha_1$  antitrypsin disease, as well as other less common disease processes. Once a diagnosis of CH-F is made, the physician making the diagnosis has two responsibilities. The first is to initiate specific therapy when it exists such as removal of copper from the diet and the institution of D-penicillamine therapy in cases with Wilson's disease and iron removal with regular phlebotomies for cases with hemochromatosis. The second responsibility is to advise the patient and the patient's family that the patient's family members may also have the disease and should be screened for the disease process in question. This will enable asymptomatic or preclinical cases within the patient's family to be identified and have their therapy instituted before irreversible organ injury has occurred.

CH-I remains a problem group as it represents those cases considered to have idiopathic liver disease. As the pathogenesis of the specific diseases assigned to this category are unknown, no specific recommendations for their therapy can be made. The goal for treatment of these patients, however, should be to continually search for a specific mechanism whereby the pathogenesis of the disease process can be identified. Once this is accomplished, these patients can usually be reassigned to one of the other categories. Thus, with time and new knowledge and experience, the number of cases assigned to this category (CH-I) continually decline.

From the preceding, it can be seen that this schema for clinical use and teaching of liver disease assists physicians caring for patients in making sure that every diagnostic possibility is considered and at the same time, points the treating physician in the proper therapeutic direction when a specific therapy exists. For physicians in training and students as well as busy physicians in practice, this schema makes the field of hepatology comprehensible and enables them to organize their thoughts about hepatic disease, using an algorithm that utilizes pathophysiologic principles, specific disease etiologies (at least in terms of broad classes) and, important for the treating physician, identifies the type of therapy that should be instituted generically.

This schema for clinical use and teaching of liver disease assists physicians caring for patients in making sure that every diagnostic possibility is considered

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## The Knights of Newt and the Wizardly Wisdom— Where's the Happy Ending?

Robert E. McAfee, MD

**G**ood morning. You may recall when last we met...I told you a fairy tale. About the good wizards—we doctors of physick—working hard for the health of the people. About the strange knights of the great dome-shaped Hall on the Hill. And about the variously popular King Will and his Queen—who took it upon themselves to decide for the wizards and the people what should become of the ways of healing magic.

And while your response to my fairy tale was overwhelmingly, and gratifyingly, positive, there were some few of you who felt it might be inappropriate for the President of your American Medical Association to offer such a light-hearted response at the end of such a serious debate. So I want to acknowledge the concerns of those few who took exception to my tale. And after deeply considering all of your comments, positive and negative alike...

There really is only one way that I can respond. As your Chief Wizard, I ask you to indulge me as I read one more page from the chronicle.

For in the days following the fail-

ure of the great health reform alchemy, a great cyclone of change blew through the kingdom, tossing knights and round tables and shields about like so many pieces of straw. New knights came forward to replace those who had lost their shields in the tempest, and this new knighthood waxed great in glory and power—and indeed, they came to be called the Knights of Newt. And their shields bore an ancient and peculiar legend. "GOP," it read. G - O - P. Which was rumored to signify "Gingrich's Old Pals."

Those knights, meanwhile, who bore the sign of the donkey upon their shields could scarcely do more than lament their losses—even though theirs was the camp of the King himself.

For King Will of the White Palace had grown smaller and quieter, and the Queen herself quite silent before their public. Indeed, certain daredevils had sought to bombard the castle by air and by land, and the King and Queen placed a great barricade before their White Palace. And the rabble were told that they no longer could drive their carriages along the renowned Pennsylvania Path where the King and Queen lived.

Indeed, the King and Queen withdrew so far behind their barricade that

they could not hear the voices of the wizards when they sought relief from the regulations that governed their clinical laboratories of magic potions. Nor did they heed the wizards' call to rethink the need for hardhats in the places where the wizards checked the humours of the people. And when the wizards asked to clarify the laws of Sir Fortney of Stark, which governed where a wizard might refer a patient, they again received no response from the White Palace.

And so it came to pass that the Knights of Newt took it upon themselves to act. And they created a new plan, which they called a Contract with the Kingdom. And as they deemed it, so it came to be.

**N**ow, the knights labored 100 days and 100 nights upon the fulfillment of their contract, and its pages had many commandments—ten in all, it is said. Not least among them an injunction to end the costly game known as Torts, which was a favorite of the evil advocates of the court, also known as the lawsuit-sayers. For lo! their clan was a vicious lot, chasing the wagons that bore the wounded to the wizards, and offering to the sickly great sacks of gold in exchange for bringing charge against a wizard for using suspect

Report of President Robert E. McAfee, MD, at the 144th Annual Meeting of the American Medical Association House of Delegates in Chicago, June 18, 1995.



magic. But most of the gold, truth to be told, was retained by the law-suers themselves.

And they fought mightily against those who would stand in their way. But they have not yet been able to succeed. And soon, we hope, the knights will find a way to restore justice to the game of Torts.

Now, there were other articles in the great Contract. And among them was a promise to lessen the levy of the taxes upon the people—and to draw tighter the strings around the public purse. And to this end, the knights heated and stirred a massive cauldron, into which they poured all of the kingdom's problems and promises. And they boiled. And they toiled. And they troubled the waters until a vision appeared in the bubbling brew.

It was a vision of swords slashing away at the many-headed monster known as—Medicare. But the knights drew back in awe and apprehension. For they knew too well that the wrath of the kingdom's most senior citizens would rain down upon their heads if they dared to inflict too serious an injury upon the Medicare monster, which many took to be their friend.

And then, the Knights of Newt remembered the great plan for health reform—that failed because the King did not consult the wizards. So this time, the knights called to the wizards to join them in the great Hall on the Hill, and to bring with them all their wizardly wisdom.

And so it came to pass that even as we gather in our own Great Hall to ponder these things—even now the wizards and the Knights of Newt, and even the noble Newt himself, are deep in discussion about the Monster Medicare, and the road best taken to tame the monster for the good of all the people, young and old.

Now clearly, this fairy tale has yet to reach its end. Yes, the knights are willing now to consult the great wizards—but it remains to be seen whether our healing medicine will be taken. We certainly hope so. For together, we are using all of our powers

and our magic to help heal the kingdom as well as its peoples.

But that magic, in truth, is not and never has been anything more than thee and me—and what we hold not just under our hats, but in our hearts as well. And so the fairy tale continues. And will continue—as long as there are wizards who care for the people.

But there are certain places in the kingdom, my friends, where happily ever after is less likely to occur. Where the tales of danger are not fairy tales—but living nightmares. Where women, children, young people, and the elderly are attacked and wounded every single day.

A place where we need the transforming powers of our magic most of all.

Because these are the homes and the streets of America—the landscape of violence that we create against our brothers and our sisters. And it is a grim and vicious land, where physicians are often the only light of hope to be found.

Come now—witness it for yourselves.

[Here the Chief Wizard produced a spectacle of images and light to illustrate the truth of his words.]

You should be part of that picture.

It is the only way to change the images of horror to images of hope for the future.

Because we are their physicians. They come to us—with their broken bodies and their broken spirits. And victims and assailants alike, they are more willing to tell us their stories than they are willing to tell their priests, their pastors, or their rabbis. Considerably more than would wish to tell an officer of the law.

It is an awesome responsibility. And we—are not even meeting it halfway.

In 1991, this House voted to launch a National Campaign Against Family Violence. The mission was two-fold. First, to identify family violence as a public health problem, so that it would be easier for patients to

talk about—and easier for communities to solve. And second, to provide physicians with the tools and information we need to properly diagnose violence when we see it—and provide a range of options, for treatment and referral.

Since then, we've developed diagnostic and treatment guidelines that physicians all across the country use to detect child abuse and neglect, child sexual abuse, domestic violence, and elder abuse.

And just last Tuesday, I myself had the privilege of unveiling before the public the AMA's first national Report Card on Violence.

And for those who missed hearing it in the news, America rated a "D." As the combined average for this country's efforts and achievements against family violence, against sexual assault, against public and handgun violence, and a new category we call virtual violence—and big business calls "entertainment"—that is, all of the violence of television and the movies, and now cyberspace. Despite broad-scale community efforts and greater awareness, this tide of violent behavior shows no signs of turning.

Related story on p. 354

The "D" grade is a wake-up call. It dramatizes the need to change. This is not a political issue. It is not a partisan issue. It is a human issue—and each of you, as physicians, has a moral and professional duty to respond as only a physician can do.

These report cards are one way the AMA—as an institution—can speak out as a leader with moral and medical authority. But there is still something missing from our efforts. And that something is you. Let this report card become your own wake-up call. Because I tell you now, it's time to get involved.

Today, the Physicians' Coalition Against Family Violence has some 6,000 members. That number should be closer to 600,000.

All of you should belong. But—

most of you do not. Ladies and gentlemen, I appeal to you. It's not enough to just talk the talk. I'm asking you to walk the walk. I'm not asking you just to join the Coalition. I'm asking you to join right here, right now.

**T**here is a sign-up sheet in your unofficial business packets. It is lavender, and it looks like this. And just out-

side this hall, there is a table where they're waiting to make you a member. Take the sheets out. Complete them now. It costs you nothing. But it may be the most valuable gift that your patients ever receive.

If I can achieve one last thing as your President, it would be to awaken you to the need to get involved. We cannot do it without you. But together, this is one more way we as wizards can make magic.

America needs you.  
Your patients need you.  
The AMA needs you.  
I need you.

Come help us—as we heal the wounds... and write a happy ending to this grim tale for all Americans.

And in closing, ladies and gentlemen, for this privilege of serving as your Chief Wizard for the year—I thank you so very much.



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## Oklahoma delegation reports on AMA meeting in Chicago

The following report, provided by the AMA, outlines the highlights of the AMA's Annual Meeting in Chicago June 18-22, 1995, which was attended by the members of the Oklahoma delegation (as reported in the June JOURNAL):

- The House [of Delegates] is composed of 432 voting delegates, representing state medical associations, national medical specialty societies, AMA Sections, the Armed Forces, and the U.S. Public Health Service.

- The house agenda this year contained 87 reports and 233 resolutions.

- Mr. Newt Gingrich, Speaker of the U.S. House of Representatives, spoke to and answered questions on Medicare reform from the House of Delegates via a live satellite hookup.

The house considered diverse issues in socioeconomics, science, medical education, and public health. Following are the highlights of the major issues considered at the meeting.

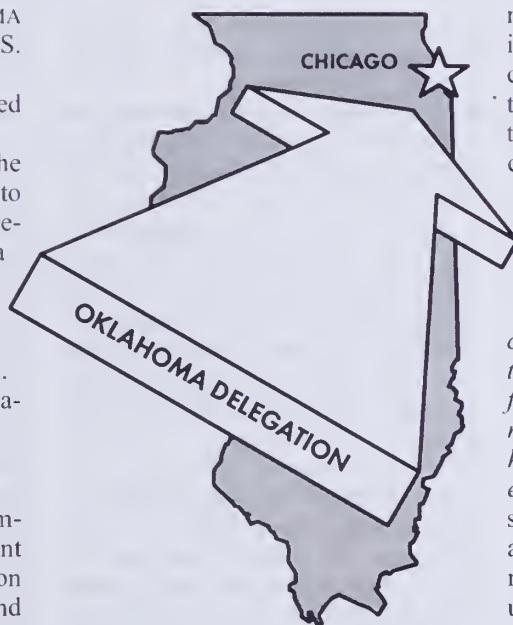
### Medicare Transformation

The Board of Trustees submitted a comprehensive report reviewing the current status of the Medicare transformation debate, outlining current strategy and policy approaches on this issue, and recommending policy changes to enhance advocacy efforts in this important legislative initiative.

The House of Delegates was clearly focused on the political debate surrounding the restructuring of the Medicare program to avoid the looming financial crisis. The board stated, "Medicare must be transformed by reducing the growth rate of program ex-

penditures and by fully funding its promise to beneficiaries. These goals cannot be met through failed policies of the past. They must be achieved through shared sacrifice." The AMA's goals are to:

- Enhance personal responsibility and cost consciousness.



- Enhance intergenerational equity in financing.

- Enable and facilitate price competition among providers.

- Reduce regulatory and administrative complexity.

The House of Delegates debated this issue extensively, both in the reference committee and on the house floor, amended the board's recommendations,

and adopted the following policy statements to guide the association during the course of this legislative battle:

- *That the AMA reaffirm that the fundamental goal of transforming Medicare should be to assure the health of the elderly and disabled populations. Patients must have access to high quality medical services. The best value in medical care can be achieved by ensuring that the medical profession has a central role in the design and implementation of a new Medicare program. Patients must also receive timely and accurate information on the necessity and important aspects of Medicare transformation.*

- *That in the context of changes that enhance the fiscal solvency of Medicare, increase beneficiary choice, and encourage program privatization, AMA policy should accept a defined contribution by the federal government toward the purchase of private health care coverage by Medicare beneficiaries. This defined contribution should equal the national average risk-adjusted actuarial value of the government Medicare contribution for individuals retaining traditional Medicare coverage. The value of this contribution should reflect the cost of access to needed health care, including preventive services, and the need to establish the fiscal solvency of Medicare.*

- *That AMA policy should include approaches that restructure Medicare beneficiary deductibles, coinsurance, premiums, and "medigap" insurance to enhance the effectiveness of cost sharing, increase patient choice, maintain*



## AMA Meeting

beneficiary financial protection, and reduce costs to Medicare and beneficiaries from medigap coverage. This restructured cost sharing should include appropriate incentives for patients to seek and receive preventive services.

■ That, consistent with current AMA policy, Medicare should eliminate price and regulatory controls on charges and payments, including limiting charges for physicians' services and the flawed Medicare Volume Performance Standard. Consistent with current policy, these controls would be replaced by a competitive pricing system in which physicians would set and disclose to patients their own fees and/or dollar conversion factor for the RBRVS and Medicare would set its conversion factor, considering both the budget and patient access to care. A similar approach should be implemented for Part A of Medicare.

■ That current policy on Medicare funding of graduate medical education be replaced to state, "In the context of an all-payer funding pool for graduate medical education, Medicare contributions for direct and indirect costs of graduate medical education should be reduced consistent with the need to improve Medicare fiscal solvency and with the proviso that these funds be replaced, in aggregate, with contributions from the all-payer funding pool sufficient to maintain adequate funding for graduate medical education." Moreover, the all-payer funding pool should be administered by a public-private sector partnership.

■ That AMA policy should accept a gradual reduction in the number of PGY-I residency positions funded through the Medicare direct and indirect medical education adjustments.

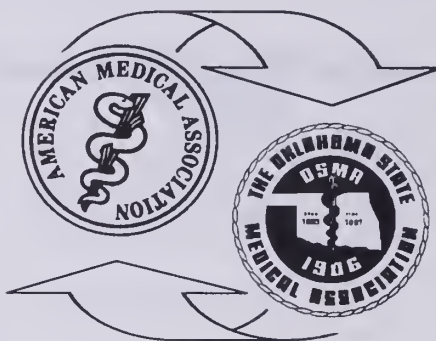
■ That, consistent with existing policies, patient and physician interests in high-quality care should be protected through non-intrusive regulatory approaches and existing or enhanced private sector efforts.

■ That the board submit a progress report on Medicare transformation, providing details on mechanisms and criteria by which the Medicare defined

contribution would be established initially and updated over time to take into consideration patient access, changing demographics, and the effect of inflation.

### Medicaid

The house considered two resolutions regarding legislative proposals to reform the Medicaid program by turning it into a block grant program. The house adopted



ed a substitute resolution that called on the AMA to:

■ Seek to assure that any restructuring of Medicaid, including block grants, preserve the safety net function of Medicaid.

■ Seek to identify and support alternatives that promote flexibility and innovation in the Medicaid program, such as programs allowing individuals to buy into Medicaid on a sliding scale based on income level, while ensuring quality and improving access to health care services.

### The Criminalization of Health Care Decisionmaking

Two resolutions were introduced regarding the current trend among courts and state legislatures to attempt to criminalize health care decisionmaking. The house adopted a substitute resolution asking the AMA to:

■ Oppose the attempted criminalization of health care decisionmaking, especially as represented by the current trend toward criminalization of malpractice; it interferes with appropriate decisionmaking and is a disservice to the American public.

■ Develop model state legislation prop-

erly defining criminal conduct and prohibiting the criminalization of health care decisionmaking, including cases involving allegations of medical malpractice, and implement an appropriate action plan for all components of the Federation to educate opinion leaders, elected officials, and the media regarding the detrimental effects on health care resulting from the criminalization of health care decisionmaking.

### Professional Liability

The house heard testimony highlighting the need for federal professional liability reforms that would (1) establish a cap on liability awards and (2) preempt state laws or regulations that prohibit such a cap. However, the testimony recognized the equally compelling need to protect existing or future state caps on liability awards which are lower or more comprehensive than those enacted on the federal level.

The house adopted a substitute resolution calling on the AMA to:

■ Support professional liability reform on the federal level that will preempt state constitutional, statutory, regulatory, and common laws that prohibit a cap on liability awards.

■ Support federal legislation which shall not preempt state constitutional, statutory, regulatory, and common laws that set caps or other restrictions on liability awards which are lower or more comprehensive than the caps on liability awards established by such federal legislation.

### Tort Reform and the Tobacco Industry

In a related action the house adopted a policy asking the AMA to oppose any provision of tort reform legislation that would give exclusion from liability or special protection to tobacco companies or tobacco products.

### Physician Assistants and Nurse Practitioners

The board submitted a report that reviewed the professional relationships of physicians with nurse practitioners and with physician assistants with respect to AMA policy, definitions, and the views of other organizations. The house re-

vised the model guidelines and adopted suggested guidelines for physician/physician assistant practice.

### **Mandatory Rating System for Content of Musical Lyrics and Videos**

One resolution, co-sponsored by the Florida and Montana delegations, received wide media coverage. The resolution pertained to certain music that is popular with a significant portion of the younger population that is characterized by inflammatory lyrics that denigrate women as well as promote and incite violence, brutality, and aggression.

The house adopted a substitute resolution directing the AMA to:

- Continue to publicly express concern about the potentially negative impact that destructive themes depicted in the lyrics of certain music may have on the nation's youth.
- Reaffirms existing policy which expresses concern about themes in some musical lyrics and encourages physicians and parents to be aware of possibly destructive themes in some music.
- Offer to work with the music recording industry to develop a mandatory rating system.

### **Food and Drug Administration**

The house considered an informational report from the board and four resolutions on various proposals to reform the Food and Drug Administration. Many delegates commended the FDA for keeping unsafe and ineffective medical products from being marketed. Others spoke about the length of time required for a drug to be approved.

The board report was amended by the addition of three policy statements that read as follows:

- That the AMA reaffirm its policy to continue to monitor and evaluate proposed changes in the FDA and to respond as appropriate.
- That the AMA continue to monitor and respond appropriately to legislation that affects the FDA and to regulations proposed by the FDA.
- That the AMA continue to work with the FDA on controversial issues concerning food, drugs, biologics, radioactive tracers, pharmaceuticals, and devices to

try to resolve the concerns of physicians, and to support the FDA initiatives of potential benefit to patients and physicians.

- That the AMA continue to affirm its support of an adequate budget for the FDA so as to favor the agency's ability to function efficiently and effectively.

### **Opposition to Payment for Prescription-Switching**

A resolution, introduced by the South Dakota delegation, addressed the issue of pharmaceutical companies notifying pharmacists that they will pay to the pharmacist a fee to provide counseling services regarding their product, causing patients to ask their physicians to change their prescriptions to one recommended by the pharmacist. In turn, the pharmacist receives a counseling fee from the pharmaceutical company.

The House of Delegates adopted a substitute resolution strongly denouncing this practice, calling on the AMA to:

- Reaffirm policies which oppose the practice of therapeutic substitution by pharmacists.
- Denounce the practice of pharmacists recommending to patients that prescriptions be changed to products manufactured by companies which pay pharmacists upon completion of such prescription-switching.
- Denounce the practice by companies of offering payments to pharmacists in exchange for recommending changes in prescriptions.
- Reaffirm current policy which opposes the practice of prescription-switching for payment by pharmacists.
- Denounce the practice of medicine by pharmacists.
- Notify the American Pharmaceutical Association (APhA) of these actions and encourage the APhA to adopt similar policies.

### **Point of Service**

The Council on Medical Service submitted a comprehensive report entitled "Health Benefits Plans and 'Point-of-Service'" that reviewed current policy that provided a basis for the AMA's Patient Protection Act and recommended a policy change. The modification would clarify the council's original in-

tent and current belief that all health plans or sponsors of such plans that restrict patient choice should be required to offer an optional point-of-service feature at the time of enrollment and, at least, for a continuous one-month period annually thereafter.

The house adopted the council's recommendation and asked the AMA to review available data on the cost of options for point-of-service and evaluate the necessity for an AMA-sponsored study of the costs of options for point-of-service and report back to the house at the 1995 Interim Meeting.

### **Conclusion**

Meetings of the AMA House of Delegates provide a unique educational opportunity for physicians and we would encourage you to attend and participate. Any member of the AMA may present testimony at the reference committee hearings and, of course, corridor discussions on the issues provide ample additional opportunities to get your views across.

If you cannot attend the meetings, you can still be represented through your delegate. Let your delegation know your opinion. You can also prepare a resolution and request that it be submitted to the AMA House of Delegates. Your delegates know how best to carry forth your point of view.

As your representatives to the AMA, we will be happy to respond to any questions you may have.

*Jay A. Gregory, MD, Chair*  
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*William O. Coleman, MD*  
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## Nation's efforts to curb violence fail, AMA says

Efforts to control the nation's pandemic of violence are not making the grade, according to a national violence report card recently released by the American Medical Association.

The AMA's Campaign Against Violence reported its first annual "National Report Card on Violence" to quantify and qualify the status of violence in America.

Overall the report card is "discouraging," according to AMA President Robert E. McAfee, MD, chair of the AMA's Physician Campaign Against Family Violence. "Despite widespread community efforts and greater awareness of violence, the tide of violent behavior does not show any signs of turning. It's a 'D' at best, America."

**Nation Receives Overall "D."**—The nation received an overall "D" which reflects the average of grades assigned to the following four categories:

**"C"—Family Violence** (spousal/partner abuse, elder abuse, child physical/sexual abuse, and suicide)

Family violence received the highest grade of the four categories, primarily because of increases in public awareness and reporting of offenses, as well as the availability of intervention and assistance programs. However, incidence of family violence continues to escalate.

**"D"—Sexual Assault** (sexual assault, acquaintance rape and spousal rape)

Sexual assault laws have been reformed in recent years, particularly in the area of victims' rights. This has led to a relative increase in reporting by victims, though studies suggest that still only 10% to 50% of rapes are reported. Further, social myths about rape such as "no means yes" are still prevalent. Such attitudes impede reporting and make apprehension and conviction of offenders difficult. More public awareness, education, and assistance programs are needed.

**"F"—Public Violence** (gang violence, gun violence, civil violence and drug violence)

Enormous tears in the social fabric

have led to an increased use of weapons, both within and outside the law. In short, public violence seems beyond our control. The media have helped to increase awareness about problems of public violence, but this has fueled widespread feelings of hopelessness. Despite increased law enforcement and societal efforts, incidence is not declining. The country is plagued with an overburdened legal system, overcrowded jails, and a lack of sufficient programs to rehabilitate convicts or reduce recidivism.

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**"D"—"Virtual Violence" (Violence in Entertainment)** (television violence, music violence, film violence, video violence, computer and cyberspace violence)

"Virtual violence" (violence in entertainment) refers to violence that is not physically experienced, but which carries a lasting psychosocial effect on the individual. Images of violence in the media are more graphic than ever. Efforts to reduce media violence have provided only a small beginning to a widespread problem. Despite increased public awareness, audiences do not seem to be using their power as consumers to force these industries to change. The long-term cost to society may be significant as exposure to violence is linked to permanent aggressive behavior, which will play out very realistically in our homes, schools and streets.

**AMA Reaction.**—"Society has had enough of the violence," said Dr. McAfee. "From the AMA's perspective, we are frustrated and tired of working to put people back together again just to see them back in the emergency room or morgue days later."

The AMA called for an "unprecedented" change in attitudes towards violence. And for a "campaign on a larger scale than seen in modern times."

**Solutions: Local Involvement.**—"If we are to change our violent ways it is not going to take 5 years but 25," said Dr. McAfee. "It's going to take a gener-

ation to save a generation. Just like our attitudes toward smoking and discrimination, America needs to work long and hard day-by-day to see violence recede. Alone we can do nothing and together we can do anything."

"We must all make a personal commitment to become actively involved in curbing violence in our society," said McAfee. "We cannot expect the federal government or law enforcement to solve this pandemic. It will take the personal contributions of every American to make a difference. Health care workers, teachers, law enforcement, social services, religious leaders, the media—every person has something to give that can make a difference."

According to the AMA's *Violence in America: A Status Report*, "The causes of violence are indeed deeply rooted in intractable social issues—poverty, drugs, decline of the family—that seem beyond our control." The report maintains that "all hope is not lost.... With renewed national commitment focusing on what each of us and our organizations can do, and inspired by real life models that have worked, a difference can be made."

In each community, anti-violence programs are working effectively and inexpensively, according to the AMA, but until now no one has reviewed and compiled them to be used on a national scale. The AMA has undertaken this task and is developing the AMA Community Guide to assist local communities in emulating successful programs that improve safety and services for survivors of violence, create violence prevention strategies, and develop sound public policy to reverse the trend.

**Efforts in Oklahoma.**— Meanwhile, available from the OSMA at no charge to physicians is the 40-page booklet *Do Your Patient a FAVOR—End the Silence*. FAVOR (Family Abuse and Violence: Oklahoma Physicians Respond) is the Physicians' Domestic and Sexual Violence Project of the OSMA. It was developed to help reduce the toll domestic violence takes upon the state's health care system and to educate Oklahoma health care providers about the

(continued)



## HEALTH DEPARTMENT

### Oklahoma kids and tobacco: The problem is still growing

According to data from the Oklahoma Behavioral Risk Factor Surveillance System (BRFSS), Oklahomans are starting to smoke at younger ages. The BRFSS survey is administered by the Oklahoma State Department of Health to a statewide random sample of adults aged 18 and older.



On the 1992 BRFSS survey, current and former smokers were asked how old they were when they first started smoking fairly regularly. Among adults surveyed 18 to 24 years of age, 91.1% of the men and 88.6% of the women responded that they had started smoking when they were 10 to 20 years of age. Almost uniformly, the percentage of both men and women reporting early initiation of smoking decreased as their current age increased, reaching a low of 71.3% for men and 51.6% for women 65 and older. The relatively low number of older women who started smoking at a young age is indicative of the overall increase of smoking among women in recent decades.

#### Nation's efforts *(continued)*

crucial role they can play in curbing this growing public health problem.

The booklet addresses such things as the definition of domestic violence, interviewing the patient, recognizing and documenting the signs and symptoms, intervention, legal considerations, and finding shelters. Also included is a form with which to join the AMA's National Coalition of Physicians Against Family Violence. Or you may simply write to Department of Mental Health, American Medical Association, 515 N. State Street, Chicago, IL 60610, FAX 312-464-5841.

**Family Abuse and Violence:  
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According to the 1994 Surgeon General's Report on Smoking and Health, nearly all new smokers begin smoking before their high school graduation and most start by age 16. According to surveys conducted by the Gallup organization, 63% of teenage smokers consider themselves addicted to cigarettes and 70% already say that they wish they had never started.

As almost all tobacco addiction begins prior to adulthood, it is widely believed that implementation of effective prevention measures to reduce the number of teenagers who become regular tobacco users would lead to a dramatic reduction in adult usage rates and, ultimately, to reductions in the high incidence and cost of smoking-related death and disease.

One important prevention measure is childhood education programs. Some advances in such programs in Oklahoma have been made in recent years. One example is the "Tar

**Current and Former Smokers Who First Smoked  
Fairly Regularly When 10 to 20 Years Old  
(1992 BRFSS Weighted Data, Oklahoma)**

Age Group	Men (%)	Women (%)	Total (%)
18-24	88.6	91.1	90.0
25-34	81.3	89.5	85.6
35-44	80.5	80.5	80.5
45-54	73.9	66.0	70.5
55-64	79.1	59.1	71.4
65+	71.8	51.6	64.0
All Ages	77.9	74.2	76.3

Wars" program which enlists the volunteer services of physicians and other health professionals in presenting a standardized tobacco-prevention curriculum to fifth grade classes.

In addition to early education, at least three other measures are considered essential in reducing the childhood tobacco addiction epidemic: (1) reducing youth access to tobacco products; (2) reducing the pervasiveness of tobacco advertising directed towards young people; and, (3) increasing taxes on tobacco products.

Public confidence in the effectiveness of all three measures is evident. During July and August 1993, supplemental questions were added to the BRFSS survey to assess support of public policies related to prevention of tobacco use among youth. Of those surveyed, 79.3% believed that banning all cigarette vending machines would be either somewhat effective or very effective in preventing young persons from smoking. Nearly 81% believed that stronger enforcement of laws prohibiting sales to minors would be effective. Banning all cigarette advertising was considered to be effective by 70.2% of those surveyed. Over 55% believed that increasing the price of a pack of cigarettes would be effective in preventing tobacco use among kids.

For more information about Oklahoma youth and tobacco use prevention, call the Oklahoma State Office of Tobacco Use Prevention at (405) 271-5601.

## Pittsburgh University questions paper

*To the Editor:* The paper entitled "The Use of Interferon for the Treatment of Viral Hepatitis in Pediatric Liver Transplant Recipients," (*J Okla State Med Assoc*, Vol 88, March 1995) by Nour, Tzakis and Van Thiel, reports on a patient population studied at our transplant center at the University of Pittsburgh. This paper had been previously withdrawn from publication after submission to *Pediatric Gastroenterology*. We requested this withdrawal because of several inaccuracies in the data, and inappropriate recommendations given in that manuscript. Since the previous withdrawal of this paper, we have reviewed and analyzed case selection and treatment courses as well as the pathological findings in order to better assess the efficacy and appropriateness of the use of interferon (INF) in children. The publication of the paper by Nour, et al, in your journal came as a surprise to us because the same inaccuracies that led to its previous withdrawal are still present and it misrepresents this work as a report from the University of Pittsburgh when it is not. The authors do not work at the University of Pittsburgh and did not look for approval from the appropriate authorities. We are finishing a revised manuscript at this time that will present our information accurately.

The inaccuracies reported in the manuscript by Nour, et al, are as follows:

As per our analysis there has been a full response, both chemical and histologic, in only 4 children. These include patients number 1, 5, 9 and 12. These patients have in fact cleared their virus and are doing well post INF therapy. However, case number 2 died of PTLD in the setting of chronic rejection and end stage liver disease (while on INF). Patient number 3 improved only after stopping INF therapy; patient number 6 had a partial response and has not cleared the virus, and patient number 11 had no response at all on INF therapy. Thus according to our analysis, there have been 4 responders and 2 partial responders. No response was seen in 5 patients, and there was a misdiagnosis of hepatitis in 1 patient. There were also serious complications due to INF in 2 nonresponders that were not included in this patient population that formed part of our total experience.

One recipient of a heart and liver (from 2 different donors) died of severe rejection of the allograft heart while on INF. The other patient had serious rejection with impending liver failure and was listed for retransplantation. However, the patient was rescued with FK506 (tacrolimus) therapy for treatment of a severe rejection that he developed in association with INF use.

Of the 2 deaths quoted, the authors state that case number 7 developed PTLD. However, there was PTLD seen in only 1 case and this was patient number 10. This patient in fact did not have hepatitis C virus. This patient died of PTLD in the setting of chronic rejection while on INF therapy. Of the patients who required retransplantation, 1 patient was misdiagnosed as hepatitis and was later confirmed to have rejection, which worsened on INF therapy. This patient died after his second liver transplant. One patient has had no post-transplantation follow-up visit, and it is not known whether this

patient had improvement of recurrent hepatitis or cleared the virus. The other 2 patients are alive, 1 with recurrent hepatitis after transplantation that has not responded to INF. Another experienced rejection of his graft; this patient was a non-compliant adolescent who may have precipitated inflammatory changes in his liver consistent with hepatitis but in fact was suffering from chronic rejection. Furthermore, interferon has been stopped in this patient and appropriate measures to treat rejection have been instituted with improvement in liver functions. The serologic findings as stated in Table 2 are incorrect in patients 9 and 10.

This letter should serve as a communication to you that our data will be submitted to another journal and that we will make the editor aware of the existence of this publication by Nour, et al, and that this publication in your journal is an unauthorized version and furthermore, a misrepresentation of our data.

—Jorge Reyes, MD

*Assistant Professor of Surgery*

*Director, Pediatric Transplant Surgery*

*Pittsburgh Transplantation Institute*

—Jorge Rakela, MD

*Professor of Medicine*

*Chief, Division of Transplantation Medicine*

*Pittsburgh Transplantation Institute*

Note: The authors of the paper in question, Drs. Nour, Tzakis, and Van Thiel, have been invited to respond to this letter.

Part of the JOURNAL's mission is to serve as an open forum for the exploration and discussion of issues vital to the physicians of Oklahoma. Readers are encouraged to express their opinions in this column. Letters should be addressed To the Editor, The JOURNAL, Oklahoma State Medical Association, 601 Northwest Expressway, Oklahoma City, OK 73118.

## DEATHS

### Elvus Jene Allgood, MD 1905 - 1995

E.J. Allgood, MD, Altus, died May 6, 1995, in Lawton. An OSMA Life Member, Dr. Allgood was born in Summerfield, La., and graduated from the University of Oklahoma School of Medicine in 1930. He completed his internship in the Canal Zone and his residency in Dallas. Dr. Allgood established his first practice in Gould, Okla., and then served for several years with the U.S. Indian Health Service in Lawton. In 1948 he joined his brother, Dr. J.M. Allgood, in founding the Allgood Ob/Gyn Clinic in Altus.

### Marvin Homer Hird, MD 1920 - 1995

OSMA Life Member Marvin H. Hird, MD, retired Muskogee obstetrician/gynecologist, died July 18, 1995. A native of Lawrence, Kan., Dr. Hird was graduated from the University of Kansas School of Medicine in 1951. He completed an internship in Wichita and a residency in St. Louis. In 1964 he moved to the District of Columbia and practiced there until his move to Muskogee in 1972.



**William G. Husband, Jr., MD  
1923 - 1995**

Elk City general practitioner William G. Husband, Jr., MD, died May 25 in Hollis, Okla., his birthplace. Dr. Husband's college education at Stanford was interrupted by service in the U.S. Army during World War II. After his discharge he continued his medical education at the University of Oklahoma School of Medicine and was graduated with honors in 1947. His internship in Detroit was followed by a surgical residency in Oklahoma City. In 1950, Dr. Husband moved to Elk City to establish his practice, and in 1951 he was recalled to the U.S. Army for two years of service. He was discharged with the rank of captain. Afterwards he returned to Elk City and continued his practice until his retirement in 1994. He was awarded OSMA Life Membership the same year.

**Lucien Michael Pascucci, MD  
1909 - 1995**

OSMA Life Member and Past President Lucien M. Pascucci, MD, died July 2, 1995, in Tulsa. Dr. Pascucci, a native of Waterbury, Conn., was graduated from Yale University School of Medicine in 1934. He completed a radiology residency in New York City in 1941. Dr. Pascucci served in the U.S. Army from 1941 to 1945 as a lieutenant colonel at O'Reilly General Hospital, Springfield, Mo. After the war, he practiced briefly in Saranac Lake, N.Y., before moving to Tulsa in 1947. Dr. Pascucci was head of St. John Hospital's radiology department for 25 years and chief of staff from 1965 to his retirement. He was very involved in organized medicine in Oklahoma and served as OSMA's 1971-72 president. His activities also included donating his time to the Oklahoma Division of the American Cancer Society, several state and national specialty societies, and the Tulsa County Medical Society. The latter named him Doctor of the Year in 1979.

**Elmer William Taylor, MD  
1928 - 1995**

Elmer W. Taylor, MD, a native of Marietta, Ohio, died March 5, 1995. Dr. Taylor, a family practice physician, served with the U.S. Air Force from 1946 to 1949. He earned his medical degree at Loma Linda University in 1957 and completed an internship in Kansas City, Mo. His practice took him from Sedan, Kans., to Salt Lake City before he finally settled in Holdenville. He became a Life Member of OSMA in February of this year.



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Meeting Dates**

Sunday, October 29, 1995 ..... Duncan  
Sunday, January 21, 1996 ..... Oklahoma City  
Thursday, April 25, 1996 ..... Tulsa  
(during OSMA Annual Meeting)

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**1994**

Austin Walsh Webb Haddox, MD ..... January 13  
Earl Mathews Woodson, MD ..... February 20  
Tom Lamar Johnson, MD ..... March 5  
Orville Main Rippy, MD ..... March 11  
Minor Elliott Gordon, MD ..... March 14  
George Loren Norris, MD ..... March 27  
Max A. Glaze, MD ..... April 29  
Winfred Aaron Showman, MD ..... May 14  
Mark Daniel Holcomb, MD ..... June 1  
Carter William Mathews, MD ..... June 3  
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Harold Ray Sanders, MD ..... June 15  
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Richard Warren Loy, MD ..... July 7  
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Lawrence Sevier McAlister, MD ..... July 19  
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Beryl Drew Henwood, MD ..... August 14  
Jess Duval Herrmann, MD ..... August 16  
John Xavier Blender, MD ..... October 5  
John Patrick Skelly, MD ..... November 6  
Jose J. Guijarro, MD ..... November 11  
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Dalton Blue McInnis, MD ..... November 26

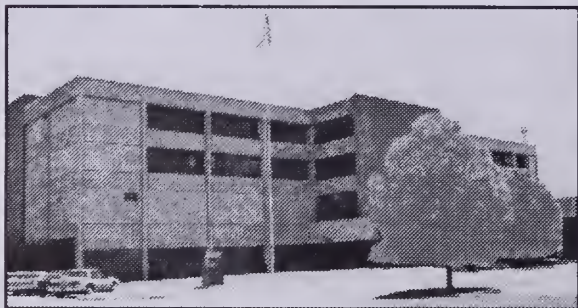
**1995**

Robert M. Wienecke, MD ..... January 3  
Mason Russell Lyons, MD ..... January 6  
Wallace Byrd, MD ..... January 25  
Herbert Victor Lewis Sapper, MD ..... January 26  
Addison Bowling Smith, MD ..... January 31  
Clifford Jennings Blair, MD ..... February 10  
John Richard Danstrom, MD ..... March 5  
Elmer William Taylor, MD ..... March 5  
Othal Blair Cunyningham, MD ..... March 14  
George S. Bozalis, MD ..... March 21  
William Gerald Rogers, MD ..... March 21  
Charles Wesley Letcher, MD ..... March 26  
John Frederick Bolene, MD ..... March 27  
John B. Miles, MD ..... March 31  
Elvus Jene Allgood, MD ..... May 6  
Wiley T. McCollum, MD ..... May 13  
Gerald Leon Honick, MD ..... May 24  
William G. Husband, Jr., MD ..... May 25  
Henry Washington Harris, MD ..... June 2  
Joan Kazanjian Leavitt, MD ..... June 13  
Lucien Michael Pascucci, MD ..... July 2  
Marvin Homer Hird, MD ..... July 18



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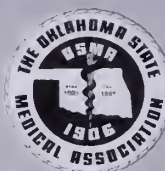
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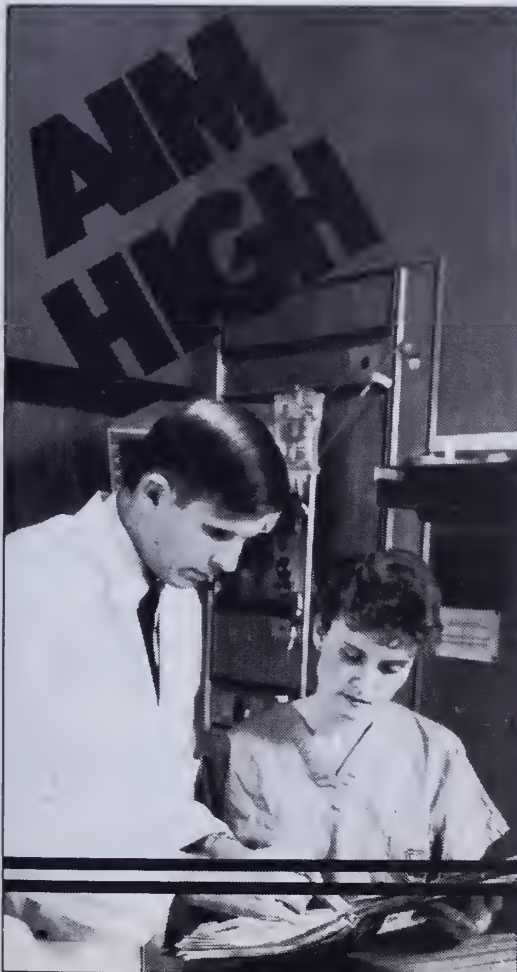
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■ **PROklahoma Care, the new managed care organization** owned exclusively by state physicians, broke escrow on June 27 and stock certificates have been mailed to subscribers of both A and B common stock. At a meeting on July 21, the acting Board of Directors named the following physicians to a nominating committee to select a slate of candidates for the permanent Board of Directors: William C. McCurdy III, MD; Joe S. Hester, MD; Eldon V. Gibson, MD; Jon C. Axton, MD; Michael J. Haugh, MD; José R. Medina, MD; William W. Sheehan, MD; L. Sam Musallam, MD; Richard Langerman, DO; and Robert Nebergall, DO.

Appointed to the new Finance Committee were C. Terrence Dolan, MD; Mary Anne McCaffree, MD; David M. Selby, MD; and Dr. Langerman.

Jay A. Gregory, MD; Larry L. Long, MD; and Dennis R. Mask, MD, were named to the Continuous Quality Improvement/Utilization Review Committee.

The Oklahoma Physicians Network (OPN) also met on July 21. The acting Board of Directors named the following individuals to serve on a nominating committee to select candidates for the permanent Board of Directors: Ed L. Calhoon, MD; Boyd O. Whitlock, MD; Tim K. Smalley, MD; Billy B. Irons, MD; and Jon C. Axton, MD.

The sale of PROklahoma Care stock and OPN membership has been extended to the end of the year, although the PROklahoma board reserves the right to end the sale at an earlier date. Class A stock will be priced at \$4,000 a share after the company becomes operational (expected this month), and \$3,500 prior to that.

■ **Tulsa County Medical Society has announced the organization of ServPRO**, a new purchasing group intended to help reduce physicians' overhead. ServPRO is a joint project of TCMS, Preferred Physicians, Inc., and Utica Physicians Association, Ltd. The limited liability corporation is composed of vendors who provide products and services to the founding organizations. With its combined purchasing power, ServPRO hopes to increase service while lowering the cost of such items as office supplies, printing, cellular phones, copiers, and computers.

■ **OSMA JOURNAL Associate Editor Ollie W. Dehart, MD**, Vinita family practitioner, has been appointed to the editorial board of the *Southern Medical Journal*.

■ **Harold Thiessen, MD, has been named the OSMA Physician Recovery Program's part-time director** for the western part of the state. Darrel Smith, MD, is the medical director and William S. O'Mcilia, MD, is part-time director for the eastern part of the state. Approval by the OSMA Board of Trustees of a revised budget for the Physician Recovery Program made the new appointment possible.

■ **The OSMA Board of Trustees met in Muskogee July 9** and Chairman of the Board Chet Bynum, MD, said he was

satisfied with the turnout. Meeting outside of Oklahoma City is part of Dr. Bynum's plan to spread the quarterly meeting's drive time more equally among board members. Minutes of the meeting were not available at press time, but actions did include approval of Life Membership applications from Ted Clemens, Jr., MD, Edmond, and William R. Loney II, MD, Bartlesville.

■ **The JOURNAL reported last month that John R. Alexander, MD, Tulsa**, was a member of the Oklahoma delegation attending the June AMA meeting in Chicago. In fact, Dr. Ed L. Calhoon, Beaver, filled in for Dr. Alexander at the last minute. It was Dr. Calhoon's last AMA meeting as an Oklahoma delegate and his many years of service in that capacity were recognized with a standing ovation from his fellow delegates in the house.

■ **In its spring newsletter, "Issues and Answers," the state licensure board** addressed the concern of some physicians about the rule of unprofessional conduct in treating immediate family members. The board explains that, aside from the wisdom of such treatment, the prohibition applies only to controlled substances and addictive and dangerous drugs. It allows such prescription in case of emergency when no other physician is available. The board also notes that the AMA's rule is much more restrictive and primarily questions the ability of the physician to maintain proper objectivity and the patient to grant free consent for treatment.

■ **The 1996 International Conference on Physician Health** has issued its official call for papers. Authors are invited to submit abstracts for consideration as part of the conference, which will be held February 8-10, 1996, in Chandler, Ariz. The conference is sponsored jointly by the AMA, the Canadian Medical Association, the Federation of State Medical Boards, and the Federation of Licensing Authorities of Canada. Presentations may deal with *any* aspect of physician health, including issues of well-being, impairment, disability, treatment, and education. Abstracts for all presentations *must* be submitted on the abstract submission form available from the AMA, Physician Health Program, Attn: E. Tejeck, 515 North State Street, Chicago, IL 60610. Questions and requests may also be telephoned, (312) 464-5066, or faxed, (312) 464-5841. Deadline for all submissions is October 2, 1995.

■ **As of the first of August, Dr. Joseph Ferretti has been** interim provost and senior vice president of the University of Oklahoma Health Sciences Center campus in Oklahoma City. He was appointed to the post by OU President David Boren after Dr. Jay Stein announced his intentions to accept a post at another institution. Boren also announced that Dr. Jerry Vannatta would become interim associate provost of OUHSC. The university plans to conduct a national search for a permanent HSC provost during the next 12 months. J



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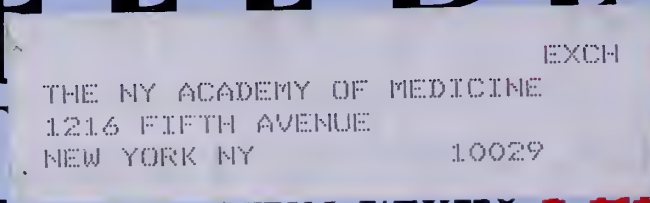


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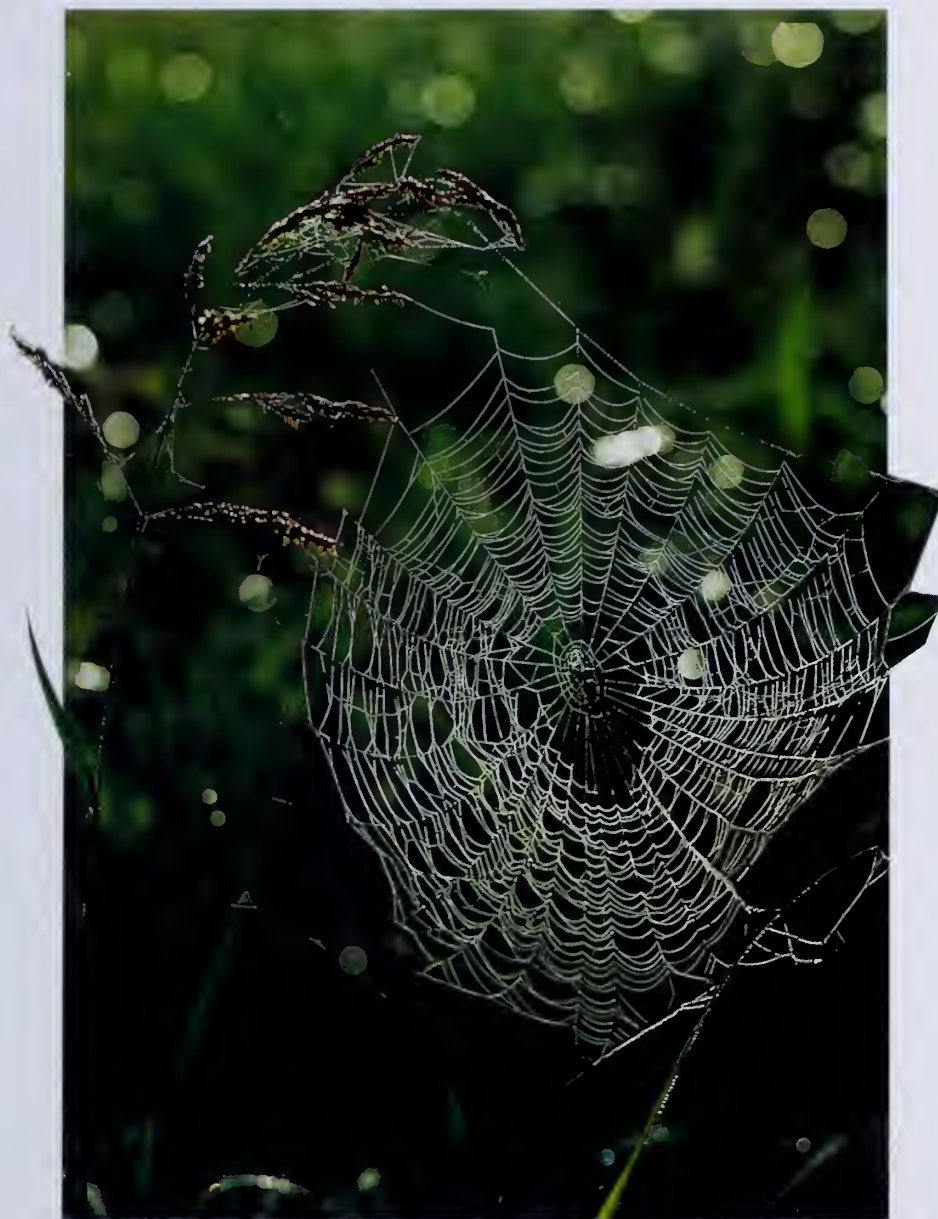
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OKLAHOMA STATE MEDICAL ASSOCIATION  
SEPTEMBER 1995



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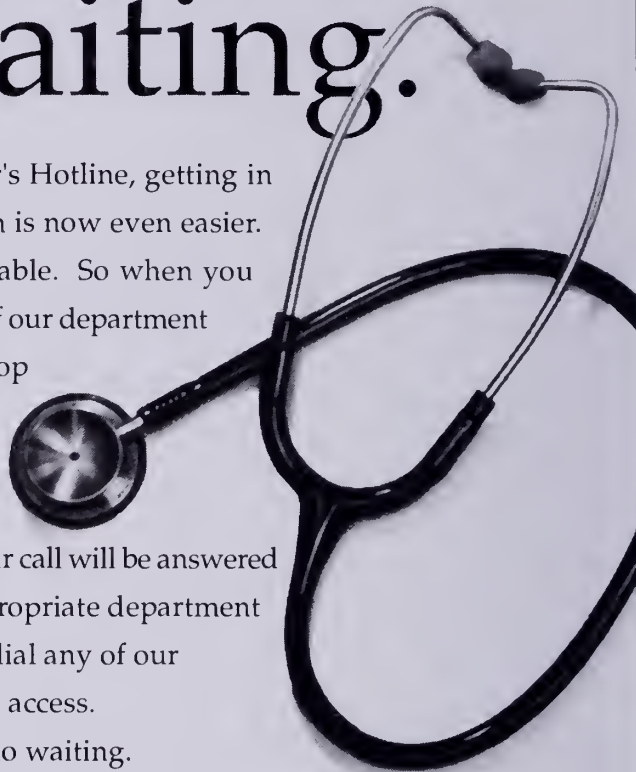
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# JOURNAL

OKLAHOMA STATE MEDICAL ASSOCIATION

SEPTEMBER 1995

VOL. 88, NO. 9

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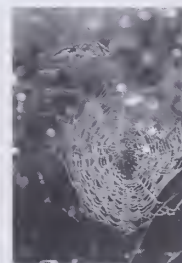
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## ABOUT THE COVER

Many spiders will put an end to their "yard work" and move  
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## Ripe Apple

To most folks, there is little doubt that Oklahoma's tort laws are written to give advantages to plaintiff's attorneys. Since statehood nearly a hundred years ago, attorneys have dominated the legislative committees that write our laws and have rigorously resisted attempts to change our tort laws.

The last legislature made a stab at improving the tort climate in Oklahoma by placing some limits on punitive damages. A "loser pays" provision and some protection for volunteer physicians not in active practice was enacted. The minor nature of the improvements after a major effort by business interests illustrates the recalcitrance of the legislature to tort reform. These minor changes will have little if any effect on medical malpractice cases, and the scant change once again signals the difficulty of achieving any significant medical malpractice tort reform through the legislative process in Oklahoma.

The time has come when the physicians of Oklahoma should mount a drive for an initiative petition that rewrites the tort law in medical malpractice. The people of Oklahoma support tort reform, the present Governor favors tort reform, and only the trial lawyers and the legislature fight against improvements. The OSMA already has a tort reform fund large enough to get the campaign under way. A statewide initiative petition based in physicians' offices, coordinated by OSMA, and advertised correctly would almost surely succeed at this time in Oklahoma history.

We Oklahoma physicians should now initiate the petition to rewrite Oklahoma law so that an affidavit of malpractice is required before filing suit, a reasonable statute of limitations is restored, and punitive damages money is paid to the state instead of to the plaintiff.

Under present law, the plaintiff's attorney may file a malpractice suit before obtaining medical opinion that malpractice may have occurred. Consequently, many suits are filed that are later found to have no merit. These expensive and inefficient fiascos could be avoided if an affidavit of malpractice by a

licensed physician were required for each malpractice suit filing.

Successive Oklahoma Supreme Court opinions have essentially abolished the Oklahoma statutes of limitations on filing time in medical malpractice cases. Fair trials become impossible at some time after the incident, as scientific progress rapidly changes the criteria of medical negligence and witnesses' memories deteriorate with time. Justice is impossibly elusive in medical malpractice cases that are over two or three years old, and our Oklahoma laws should be revised to restore a reasonable statute of limitations. The parents and guardians of minor children who may have sustained negligent medical injury should be required to initiate their dependent's claims within a timely statute of limitations.

Also, Oklahoma should rewrite the punitive damages law so that the moneys collected on punitive damages would henceforth be paid to the state treasury. Punitive damages, when won, now are paid to the plaintiff and plaintiff's attorney even though it is "double dipping," since the plaintiff's economic loss was recouped before the punitive damages were awarded. Fairness and justice would be improved if the punitive damages were awarded to the state treasury instead of to the plaintiff.

Shakespeare wrote, "There is a tide in the affairs of men, which, taken at the flood, leads on to fortune." And now is the time in the affairs of Oklahoma for OSMA physicians to initiate and execute a petition to rewrite the medical malpractice laws. We have the seed money, we have a strong statewide organization, and 1996 is the right time for the flood tide of tort reform to be taken.

This apple is ripe. The OSMA should pluck it in 1996.

We Oklahoma physicians should now initiate the petition to rewrite Oklahoma law...

*Ray V. McIntyre, M.D.*



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## Change???

Whenever I think of change, I am reminded of two famous quotations. The first is by Tennyson who quotes King Arthur in "Enoch Arden" when he says, "The old order changeth, yielding place to new." The second is by Alphonse Karr who in 1849 wrote, "The more things change, the more they remain the same."



As some Congressional and governmental leaders prepare to celebrate the 30th anniversary of the enactment of the Medicare law, certainly all are in agreement that Medicare is in serious financial trouble.

The reasons for the current Medicare crisis are many. Some of those reasons have been clearly defined in a recent proposal from the American Medical Association for restoring the physical stability of Medicare. Some of these reasons include the insulation of Medicare beneficiaries from the true costs of care by third-party payment mechanisms, a rapidly growing elderly population, increased longevity, and expanded medical capabilities along with innovative—but costly—new technology.

All of these have pushed the Medicare system to the verge of bankruptcy. Democrats,

- Each participant should have some financial responsibility for their medical decisions (co-payment) and feel ownership in the plan;
- Physicians and patients should make medical care decisions consistent with quality care standards and policy provisions, unimpeded by third parties;
- Medical savings accounts appear to offer an opportunity for greater freedom of choice of plan and physician; and also provide the risk and reward of investment;
- Competition in a well-educated beneficiary pool will likely create savings;
- A defined contribution plan (which could include vouchers) similar to the FEHBP would foster competition and create variety;
- An alternative financing mechanism for medical education should be found;
- An enhanced program for eliminating fraud and abuse should be implemented; and
- Physician organizations should be freed of any legal restraints that bar equal competition with other providers and entrepreneurial interests.

Most of these principles are included in the AMA proposal, "Transforming Medicare (Medi-choice)."

We strongly encourage and solicit your participation in this transformation. It is a system which, when changed to include the basic fundamentals we have outlined, can provide a meaningful and strong cornerstone for the delivery of health care to our elderly.

So, one wonders as change is considered and proposals for those changes are made: In the end, how much will the system remain the same?

There is one basic fundamental, however, that will never change and that is the treasured relationship between patient and physician. For healthcare services will always be available and there are physicians who stand ready to provide those services. The relationship, the basic care, and the physician who is delivering that care shall never change.

Republicans, and policymakers of all persuasions agree that Medicare in its current state cannot be sustained. It is up to this generation to fix Medicare, or it won't be there for the generations to come.

In a recent letter to our congressional delegation, the leadership of the Oklahoma State Medical Association outlined a few principles that we hope would be considered in evaluating the various plans. These principles include the following:

- Each Medicare beneficiary should have the option of selecting from a variety of qualified plans (traditional, managed care, PPO, indemnity, etc.) that include an approved set of basic benefits;

It is up to this generation to fix Medicare, or it won't be there for the generations to come.

*Related story on page 398*





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## The Changing Spectrum of Pulmonary Infections Due to Nontuberculous Mycobacteria

David S. Baggs, MD

Although nontuberculous mycobacteria (NTM) infections are not common, there is evidence that they are becoming increasingly recognized and in some parts of the country occur more frequently than *M. tuberculosis*. The classic description of NTM pulmonary infection is that of a male patient with cavitary infiltrates and predisposing lung disease. With an increase in the number of reported cases of infection, there have been other syndromes described, particularly in elderly female patients without any predisposing conditions, those with asymptomatic pulmonary nodules, esophageal disease causing recurrent aspiration pneumonia, and disseminated infection in AIDS. Therapy of *M. avium* complex (MAC) disease is far from definitive whereas infections due to *M. kansasii* can be effectively treated even in the presence of profound immunosuppression. Recognition of these infections and their recent change in epidemiology hopefully will encourage practitioners to enroll their patients into clinical protocols that will help to establish the optimal regimen(s).

The nontuberculous mycobacteria (NTM) were isolated in the late 1800s, but they were not recognized as human pathogens until the 1950s. After Timpe and Runyon devised a classification system for the NTM in 1954, identification of the different species and appreciation for their role

in causing human disease became widely recognized.<sup>1</sup> As the number of reported cases of NTM infection increased during the next decade, it became apparent that the typical patient with NTM pulmonary disease was an elderly, white male with pre-existing lung disease such as chronic obstructive pulmonary disease (COPD) or previous tuberculosis infection.<sup>2-4</sup> Several series published in the 1950s and 1960s emphasized how rare this infection was in patients without predisposing conditions.<sup>4-6</sup> However, in the last decade, an increasing number of cases of NTM pulmonary infection have been reported in patients without any predisposing conditions.<sup>7-10</sup> In addition, the acquired immunodeficiency syndrome (AIDS) epidemic has created a large cohort of patients susceptible to disseminated NTM infections. The purpose of this paper is to review the changing epidemiology, clinical features, diagnosis, and treatment of NTM pulmonary infections. It is also important for physicians to recognize the financial impact of pharmacologic treatment of these infections which may require five or six antimicrobials for periods of up to 2 years.

### Epidemiology and Pathogenesis

In the late 1950s, tuberculosis was a major public health problem whereas pulmonary infection with NTM was thought to be relatively rare. Although rare, it was estimated that 1 to 2% of patients in tuberculosis sanatoria were infected with NTM.<sup>2,11</sup> As the number of reported cases increased, there was noted to be geographic variability both in the prevalence and in the species responsible for NTM disease.<sup>12-14</sup> *Mycobacterium avium-intracellulare*

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**Table 1. Criteria for the Diagnosis of Pulmonary Disease Caused by the Nontuberculous Mycobacteria**

**For patients with cavitary lung disease:**

1. Presence of two or more sputum specimens (or sputum and a bronchial washing) that are acid-fast bacilli smear-positive and/or result in moderate to heavy growth of NTM on culture.
2. Other reasonable causes for the disease process have been excluded (e.g., tuberculosis, fungal disease, etc.)

**For patients with noncavitary lung disease:**

1. Presence of two or more sputum specimens (or sputum and a bronchial washing) that are acid-fast bacilli smear-positive and/or produce moderate to heavy growth on culture.
2. If the isolate is *M. kansasii* or MAC, failure of the sputum cultures to clear with bronchial toilet or within 2 weeks of institution of specific mycobacterial drug therapy.
3. Other reasonable causes for the disease process have been excluded.

**For patients with cavitary or noncavitary lung disease whose sputum evaluation is nondiagnostic or another disease cannot be excluded:**

1. A transbronchial or open lung biopsy yields the organism and shows mycobacterial histopathologic features (i.e. granulomatous inflammation, with or without acid-fast bacilli). No other criteria needed.
2. A transbronchial or open lung biopsy that fails to yield the organism but shows mycobacterial histopathologic features in the absence of a prior history of other granulomatous or mycobacterial disease plus: (1) presence of two or more positive cultures of sputum or bronchial washings; (2) other reasonable causes for granulomatous disease have been excluded.

\*Adapted from the Official Statement of the American Thoracic Society<sup>23</sup>

(*M. avium* complex, or MAC) was frequently encountered in isolates from the southeast United States whereas *Mycobacterium kansasii* was more common in isolates from the central regions.<sup>12-14</sup> Since NTM infections are not considered to pose a public health problem, they are not a reportable disease in the United States and it is difficult to obtain accurate estimates of the incidence and prevalence of these infections. As the incidence of tuberculosis decreased in the 1960s and 1970s, NTM became a relatively more important cause of pulmonary disease.<sup>6</sup> In the early 1980s, Good and colleagues examined data from over 32,000 isolates of mycobacteria that were obtained from state health department labs throughout the U.S.<sup>13,14</sup> While tuberculosis was the most common organism, NTM now accounted for one-third of these isolates. Of the NTM isolates, 61% were *M. avium* complex, 10% *M. kansasii*, 19% rapidly growing mycobacteria, and 10% were other types of NTM.

Although these studies provided information about the frequency with which these organisms were isolated, it is not clear what percentage of

the NTM isolates represented disease versus simple colonization. In 1987, O'Brien et al. reported 5,496 NTM isolates and acquired patient information to determine the percentage of isolates representing disease.<sup>11</sup> Of the 5,496 isolates, 50% were MAC, 12% were *M. kansasii*, 10% *M. fortuitum*, and the remainder were rare isolates of NTM. From patient information, it was determined that 47% of MAC isolates represented disease, 75% of *M. kansasii*, and 18% of *M. fortuitum*. They estimated the prevalence of NTM infection to be 1.78 cases in 100,000.

In 1994, Kennedy and Weber reported on a series of 21 patients in a suburban multispecialty clinic who presented with active mycobacterial lung infections.<sup>7</sup> Only 1 of 21 patients were found to have *M. tuberculosis*, whereas 20 of 21 had NTM infection. Of those with NTM infection, 14 of 20 had MAC, 1 of 20 *M. kansasii*, and 3 of 20 *M. abscessus*. This recent report suggests that NTM infection may be more prevalent than *M. tuberculosis* in certain populations.<sup>6</sup> Some investigators have attributed the observed increase in incidence of NTM pulmonary infections to the acquisition from modern water supplies, nosocomial sources, or the increased virulence of these organisms.<sup>15</sup> In addition, data from Prince et al. indicates that there has been an increase in the incidence of pulmonary disease due to NTM (especially MAC) in apparent immunocompetent patients without any predisposing conditions.<sup>8</sup>

Prior to the AIDS epidemic, there were only a few cases of disseminated NTM reported in the literature.<sup>12</sup> A recent autopsy study has confirmed the presence of disseminated NTM in 50 to 56% of patients dying with AIDS. Since the AIDS epidemic, the incidence has been increasing; it has been estimated that 15 to 40% of patients with human immunodeficiency virus (HIV) infection may have disseminated NTM infection and 95% of these cases are due to MAC.<sup>16</sup>

Most NTM infections are acquired from the environment. MAC has been isolated from natural water supplies, soil, dairy products, pigs, chickens, cats, and dogs.<sup>17</sup> The organism appears to be easily aerosolized and causes infection after gaining access to the lower respiratory tract. *M. kansasii* has not been found in soil or natural water supplies but has been isolated from tap water supplies and domestic animals.<sup>18,19</sup> *M. fortuitum*, *M. chelonae*, and *M. smegmatis* (the rapidly growing mycobacteria) are ubiquitous and have been isolated from soil, natural water supplies, air, tap water, and distilled water in hospital systems.<sup>20-22</sup> The latter organisms are best known for their propensity to cause soft tissue



infections, postoperative wound infections, and infections of prostheses, but they rarely cause pulmonary disease.<sup>20,23</sup> *M. xenopi* has been isolated from hot water taps within hospitals and may be responsible for a minority of clinical pulmonary infections.<sup>24</sup>

The pathogenesis of NTM pulmonary infection most likely involves aerosolized organisms from the environment gaining access to the lower respiratory tract. Based on epidemiologic and serologic studies, person-to-person and animal-to-person transmission of NTM infection is thought to be rare. Ingestion of organisms has been postulated to be a route of infection, particularly in children with cervical lymphadenitis and HIV-infected patients with disseminated NTM infection.<sup>23</sup>

### Diagnosis of NTM Infection

The diagnosis of NTM infection is based on the isolation of NTM in a patient with an appropriate clinical syndrome. The classification system for NTM devised by Runyon 40 years ago is still important in the identification of the infecting species of NTM; however, more sophisticated methods utilizing biochemical tests, DNA probes, and chromatography are beginning to supplant the older methods of identification. Particularly with respect to pulmonary disease, the signs, symptoms, and radiographic findings are neither sensitive nor specific for NTM infection. Therefore, clinicians must rely on the expertise of the microbiology laboratory for information about the species and the antimicrobial susceptibilities of the organisms. Not all hospital laboratories have the capacity to speciate the atypical mycobacteria. In fact, in many areas of the United States, NTM species identification and drug susceptibility testing can only be accomplished by the state or local public health laboratory. In Oklahoma, a few hospital-based microbiology labs will speciate the NTM; however, the majority of isolates are forwarded to the state health department.

The staining methods used to identify NTM are the same as those for *M. tuberculosis*. These include the Kinyoun, Ziehl-Neelsen, and fluorochrome stains. Under light microscopy, one is unable to differentiate the various NTM from *M. tuberculosis* with the exception that *M. kansasii* may appear larger and have a beaded appearance to the experienced observer.

Specimens submitted for mycobacterial culture should be inoculated onto solid and broth media.<sup>23</sup> The most common types of solid media are Lowenstein-Jensen (egg-potato base) and Middlebrook 7H10 or 7H11 (agar-based). Solid media can detect growth of NTM in 2 to 4 weeks.

Broth media can detect growth within one week, particularly when Middlebrook 7H12 media radiolabelled with the Bactec system is used. The Bactec system detects the production of <sup>14</sup>CO<sub>2</sub> which is liberated from <sup>14</sup>C-labelled palmitic acid contained in the broth. This method is thought to be so sensitive that the vast majority of cultures for MAC will be positive after just 14 days of incubation.<sup>25</sup>

There are also numerous biochemical tests that assist in the identification of NTM; however, the methodology of these tests and their significance is beyond the scope of this article.

DNA probes are now available that can provide a rapid and accurate identification of *M. avium*, *M. intracellulare*, and *M. tuberculosis*.<sup>25</sup> Newer methods under investigation but not yet widely available include: thin layer chromatography, gas-liquid chromatography, high pressure-liquid chromatography, and the amplification of mycobacterial DNA using the polymerase chain reaction. Serotyping has been valuable in epidemiologic studies but is not routinely available and is primarily a research tool.

Skin testing may be a useful diagnostic adjunct in children with lymphadenitis due to NTM.<sup>26</sup> This is due to the low probability that young children have previously encountered these environmental pathogens. The use of cutaneous tests in adult NTM infection, however, generally has not been clinically useful for several reasons. There are no properly standardized antigens analogous to purified protein derivative that are currently available for clinical use. Moreover, many of the surface antigens of the NTM are shared with one another and with *M. tuberculosis*. Therefore, patients demonstrate significant cross reactivity. Although the sensitivity of some of these antigens has been good, the specificity is very poor, and they do not appear to be helpful in differentiating infection due to NTM from that of *M. tuberculosis*.<sup>27</sup>

### Clinical Features of NTM Pulmonary Infection

Whenever NTM is isolated from sputum, one must determine whether the organism represents mere colonization or significant pulmonary infection. Patients with colonization of the tracheobronchial tree may eradicate the organism from the sputum with a trial of bronchial hygiene (bronchodilators, antibiotics, smoking cessation, and chest physiotherapy).<sup>28</sup> Factors that favor colonization over invasive disease include: (1) sporadic isolation of NTM from the sputum of a patient with stable radiographic findings and minimal system-

Table 2. Clinical and Radiologic Syndromes of NTM Infection

Clinical Syndrome	Clinical Features	Radiographic Features
Classical Form	Cough, dyspnea, hemoptysis, fever, and constitutional symptoms.  Predisposing factors are present.	Radiographic pattern is similar to reactivation of <i>M. tuberculosis</i> infection with cavitation in the upper lobes.
Nonclassical Form	Similar symptoms as the classical form.  Predisposing factors are absent.	Radiographic pattern shows bilateral nodules with lower lobe predominance.  Bronchiectasis may be visible with high-resolution CT.
Asymptomatic Pulmonary Nodule	Asymptomatic  Brought to attention by a routine chest radiograph.	Solitary pulmonary nodule.  Multiple lesions may be visible on high-resolution CT that were not appreciated on plain chest radiography.
Recurrent Aspiration Due to Underlying Esophageal Disease	Due to the rapidly-growing mycobacteria.	Radiographic pattern is similar to recurrent aspiration with bilateral lower lobe infiltrates.  May see abscess formation.
Pulmonary NTM Infection in the Immunocompromised Host	Immunosuppressed patients.	No characteristic radiographic pattern.

ic symptoms and (2) isolation of NTM from two or more sputum samples in a patient with non-cavitary lung disease who has sputum conversion after 2 weeks of bronchial hygiene or 2 weeks on specific antimycobacterial drug therapy. Thus, the isolation of NTM from sputum in patients with underlying lung disease and minimal systemic symptoms is not sufficient to diagnose NTM infection.

In 1990, the American Thoracic Society issued a statement that summarized the recommended diagnostic criteria for pulmonary disease caused by NTM (Table 1).<sup>23</sup> These criteria distinguish between patients with cavitary lung disease and those with noncavitary disease. Patients with

cavitary infiltrates are thought to have NTM pulmonary disease when two or more sputum samples (or a sputum sample and bronchial washing) are acid-fast bacilli (AFB) smear-positive and result in heavy growth in culture after other possible causes of disease (*M. tuberculosis*, fungal infection, sarcoidosis) have been ruled out. Patients with noncavitary infiltrates are thought to have significant infection if: (1) two or more sputum samples (or a sputum and bronchial washing) are AFB smear-positive and result in heavy growth in culture; (2) the sputum fails to convert to negative with bronchial hygiene or 2 weeks of specific mycobacterial drug therapy, and (3) all other possible causes of the disease have been excluded.

MAC and *M. kansasii* are by far the most common organisms responsible for pulmonary disease in humans and account for approximately 70 to 80% of cases in immunocompetent patients. There is, however, marked geographic variability in the species responsible for these infections. As previously mentioned, *M. xenopi* is rarely a cause of NTM pulmonary infection but it accounted for 38% of 89 consecutive patients in one series from Ontario.<sup>29</sup> Less common NTM known to cause pulmonary disease include *M. simiae*, *M. scrofulaceum*, *M. szulgai*, and the rapidly growing mycobacteria (*M. fortuitum*, *M. chelonae*, *M. smegmatis*). The clinical features of NTM pulmonary disease tend to be similar irrespective of the infecting organism. However, despite the clinical similarities, there are significant differences in the therapeutic responses between MAC and *M. kansasii* infections.

Rauscher et al. reported 35 patients presenting over a ten-year period with pulmonary infection due to *M. kansasii*.<sup>30</sup> They noted the following characteristics: 71% were male, 86% were white, 94% had predisposing pulmonary disease, 61% had cavitary lung disease (due to previous infection with *M. tuberculosis*), and 89% responded to antimicrobial treatment. Cavitary lung disease has been a consistent finding in several series of patients with *M. kansasii*.<sup>28,30,31</sup> These cavities, which are probably due to the underlying lung disease, have been reported in 60 to 80% of patients and may persist after effective treatment and subsequently develop into mycetomas.<sup>32</sup> There have been several reports documenting efficacy of the conventional antituberculous regimens against *M. kansasii*.<sup>33-35</sup> Although these infections usually respond well to treatment, data from Francis et al. indicate that these infections will progress if not treated.<sup>31</sup>

Clinical features of MAC pulmonary infection



are similar to those of *M. kansasii* and include productive cough (60 to 100%), dyspnea, hemoptysis (15 to 20%), fever, malaise, weight loss, and fatigue.<sup>26,36</sup> In contrast to *M. kansasii*, MAC infections are much less responsive to chemotherapy and tend to show *in vitro* resistance to traditional antituberculous drugs using standard susceptibility testing.<sup>37</sup> Despite the recent development of antibiotics with *in vitro* activity against MAC, these infections may still pose an extremely difficult management problem.

Clinical pulmonary infection may occur when aerosolized organisms gain access to the lower respiratory tract in a susceptible host. The criteria for susceptibility are not entirely understood; however, those patients with underlying lung disease such as COPD, malignancy, previous *M. tuberculosis* infection, bronchiectasis, emphysema, chronic aspiration, silicosis, and those with impaired cell-mediated immunity are clearly at risk. In a series of 89 cases of NTM pulmonary disease in England and Wales, Schaefer et al. reported that 50% of these cases occurred in patients with dusty occupations and coal worker's pneumoconiosis.<sup>38</sup> Other conditions reported to predispose to NTM infection are esophageal disorders (particularly achalasia), malignancy, and prior gastrectomy.<sup>37,39,40-42</sup>

As mentioned above, there has been an increase in reported cases of patients with NTM pulmonary infection who have no clear predisposing factors for infection. The factors that place these patients at risk are as yet unknown. Since the majority of patients in this group are elderly, it is possible that they may have an unrecognized defect in cell-mediated immunity or have impaired mucociliary clearance. The hypothesis that impaired mucociliary clearance plays a role in these patients is based on the observation that bronchodilator therapy (which has been shown to augment mucociliary transport) may eradicate the organism from the sputum of some patients without antimycobacterial therapy.<sup>28</sup> It has also been observed that there is an increased incidence of pectus excavatum, thoracic scoliosis, and mitral valve prolapse in this patient population, leading to the hypothesis that these patients may have unrecognized connective tissue disorders.<sup>15</sup>

Recent data suggest that there are several distinct syndromes of NTM infection based on the clinical and radiographic presentation. Miller reviewed the literature on the different clinical syndromes and classified them into five distinct categories based on clinical and radiographic findings (Table 2).<sup>10</sup>

**Classical Form.**— The "classical form" of

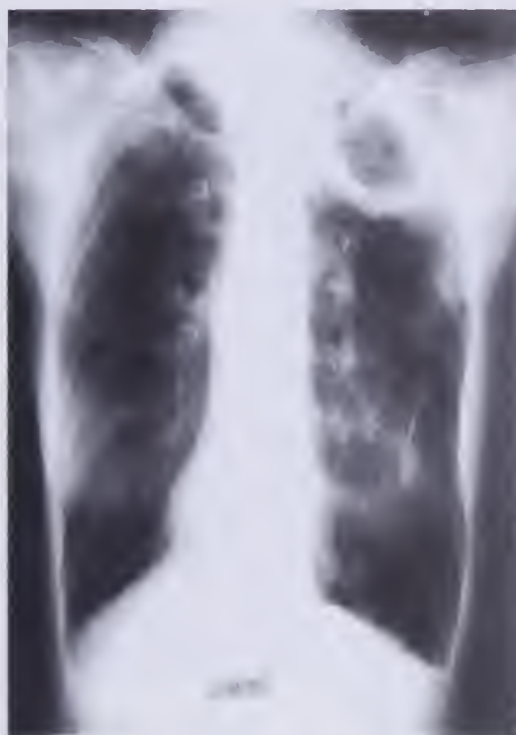


Figure 1. A plain chest roentgenogram showing a large cavitary lesion in the left upper lobe of a patient with severe underlying chronic obstructive pulmonary disease and numerous positive sputum cultures for MAC.

infection occurs predominantly in white males in their mid to late 60s. The signs and symptoms are productive cough, dyspnea, hemoptysis, fever, and constitutional symptoms. These patients typically have predisposing conditions with underlying lung disease occurring in 33 to 82%. The radiographic findings are similar to those found in patients with reactivation of *M. tuberculosis* with cavitation present in 80 to 95% (Fig. 1).<sup>2,3,26,36</sup> Apical pleural thickening (37 to 56%), bronchiectasis (79%), and patchy interstitial infiltrates are also common.<sup>10,43</sup>

**Nonclassical Form.**— The "nonclassical form" of infection occurs in 20 to 30% of patients and has similar presenting symptoms to the "classical form," with chronic cough being the most common. The population of patients in this group is different and they tend to be elderly, white females with no known predisposing factors.<sup>8</sup> The radiographic findings consist of bilateral nodular opacities (Fig. 2A), multiple tiny nodules, bronchiectasis, and bilateral infiltrates predominantly in the lower lung zones.<sup>10</sup> Bronchiectasis is usually found in the right middle lobe and lingula and can be readily appreciated with the use of high-resolution computed tomographic (CT) scanning (Fig. 2B). Serial CT scans obtained in patients with this form of NTM infection demonstrated evidence of progressive bronchiectasis, which suggests that the NTM are the cause of the



Figure 2A. A plain chest roentgenogram showing multiple nodular opacities predominantly in the lower lung zones in a female patient with no history of underlying pulmonary disease but multiple sputum cultures positive for MAC.

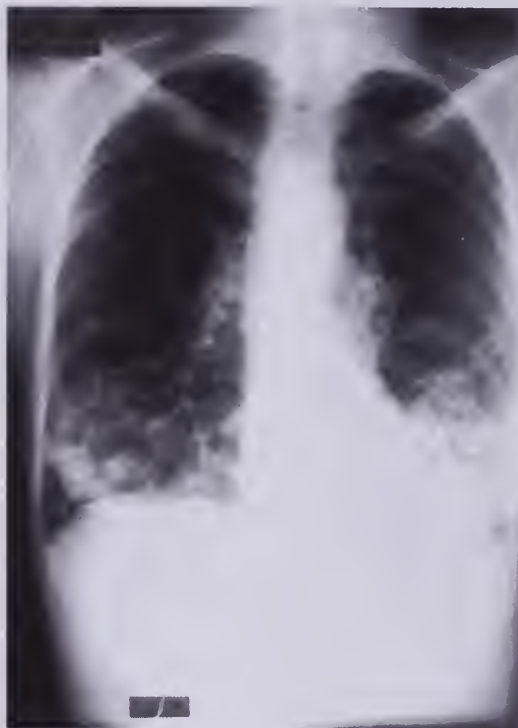
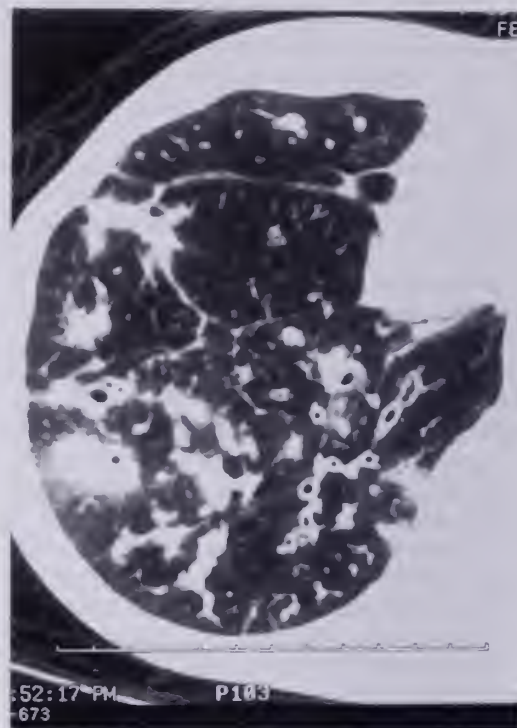


Figure 2B. A high-resolution computerized tomography image from the same patient showing irregular nodular opacities with evidence of bronchiectasis.



bronchiectasis rather than the predisposing factor as has been suggested in the "classical form" of the disease.<sup>44</sup>

**Asymptomatic Pulmonary Nodules.**— Another form of NTM pulmonary infection is the presence of an asymptomatic pulmonary nodule that is diagnosed following surgical removal of a suspected primary lung neoplasm.<sup>45</sup> The exact incidence of this entity is unknown; however, it accounted for 78 of 244 NTM cases reported by Teirstein et al. at Mount Sinai Medical Center.<sup>46</sup> Radiographically these solitary lesions are indistinguishable from primary lung cancer although, if CT scanning is performed, there may be evidence of several adjacent, small "satellite" nodules that are not visible on the plain chest radiograph.<sup>10</sup> The presence of multiple focal nodules in the same lobe (or area) is helpful information because the lesions are less likely to represent a primary lung neoplasm, and metastatic disease to the lung is typically a random rather than focal process.

**NTM Infection in Esophageal Disorders.**— NTM infection has also been described in patients with esophageal disorders, particularly achalasia.<sup>41,42</sup> The most common organisms responsible for this type of infection are the rapidly growing mycobacteria such as *M. fortuitum* and *M. chelonae*. These patients present with a clinical syndrome distinctly different from the "classical"

and "nonclassical" forms of NTM infection. The pathophysiology is due to recurrent aspiration, and the radiographic appearance resembles aspiration pneumonia with patchy, bilateral infiltrates. Lung abscess has also been associated with these infections.

**Pulmonary NTM Infection in the Immunocompromised Host.**— NTM infection may present as disseminated disease and is especially common in immunocompromised patients such as those with AIDS.<sup>25</sup> Although there are cases of isolated pulmonary infection due to MAC in patients with AIDS, disseminated disease is much more common. Studies looking at the clinical and radiographic manifestations of pulmonary disease in AIDS patients with MAC have not identified any specific characteristics which are pathognomonic. This is because most AIDS patients with MAC pulmonary infection have pathologic evidence of a coexistent process such as *Pneumocystis carinii* pneumonia, bacterial pneumonia, cytomegalovirus infection, Kaposi's sarcoma, or lymphocytic interstitial pneumonitis.<sup>47,48</sup> Common radiographic findings in these patients are diffuse, patchy, and nodular infiltrates with occasional mediastinal lymphadenopathy. In contrast to MAC, *M. kansasii* infection frequently presents as isolated pulmonary disease in AIDS patients. Exclusive pulmonary involvement was seen in 14 of 19 patients in one series by Levine

and Chaisson.<sup>49</sup> Symptoms were generally present for more than 2 weeks and consisted of fever, cough, dyspnea, night sweats, pleuritic chest pain, and hemoptysis. Radiographic findings included diffuse infiltrates, thin-walled cavities, and focal upper lobe disease. *M. kansasii* infection typically responds to conventional antituberculous drugs, making this entity a treatable cause of pulmonary disease in patients with HIV infection.<sup>49,50</sup>

### Treatment of NTM Infection

Once the diagnosis of NTM pulmonary infection is made, the therapeutic approach depends on the specific pathogen isolated and the extent of disease. When NTM is diagnosed after surgical resection of an asymptomatic pulmonary nodule, no further treatment is required if there is no evidence of residual disease.<sup>26</sup> Treatment of *M. kansasii* responds well to traditional antituberculous drugs, whereas MAC is more difficult to treat and may require numerous agents with considerable toxicity.<sup>2,37,51</sup> In addition to the propensity for side effects, the cost of these drugs may pose a significant financial burden. Since these infections are not considered a public health problem, state and local health departments do not provide the medications for patients as they do with *M. tuberculosis*. It is also important to realize that there have been few, if any, controlled clinical trials comparing any of the treatment regimens for these infections, and recommendations are based largely on empiric data.

The currently recommended regimen for treatment of pulmonary infection due to *M. kansasii* is listed in Table 3.<sup>23</sup> INH (isoniazid), rifampin, and ethambutol should be continued for 18 months. The efficacy of this regimen has been excellent, with 4-month sputum conversion rates of 100% in one series of 180 patients.<sup>33-35</sup> If patients are unable to tolerate INH, streptomycin can be substituted with equal efficacy. For those isolates showing rifampin resistance or for those patients with recurrent or refractory infection, a regimen of high-dose INH, ethambutol, sulfamethoxazole, and streptomycin is recommended (Table 3). Given the high dose of INH used with this regimen, prophylactic administration of pyridoxine is recommended to prevent peripheral neuropathy. For patients with HIV infection, INH, rifampin, and ethambutol with or without streptomycin (one gram weekly for the first 3 months) is recommended.<sup>23</sup>

Treatment of MAC infection depends on the extent of disease. If the patient is stable with few systemic symptoms and noneavitary disease, a

**Table 3. Treatment of Pulmonary Infections Due to *M. kansasii*<sup>23</sup>**

Clinical Setting	Drug Regimen
Patients with documented infection and no prior treatment	INH 300 mg/day and Rifampin 600 mg/day and Ethambutol 15 mg/kg/day. Duration of treatment 18 months.
Patients with documented infection and isolates showing rifampin resistance or patients with recurrent or refractory infection	INH 900 mg/day and Ethambutol 25 mg/kg/day and Sulfamethoxazole 3 mg/day and Pyridoxine 50 mg/day.* Duration of treatment 18-24 months.
Patients with HIV Infection	INH 300 mg/day and Rifampin 600 mg/day and Ethambutol 15 mg/kg/day± Streptomycin 1 g/week (for the first 3 months) Duration of treatment 18 month.

\*Added to prevent peripheral neuropathy

period of observation is recommended for a few months to determine the degree to which MAC is contributing to the overall clinical picture. During the observation period, measures to improve mucociliary clearance may be useful and should include bronchodilators, smoking cessation, and if indicated, chest physiotherapy and antibiotics. In addition, serial chest radiographs and monthly sputum cultures are an excellent means to assess the need for more aggressive treatment. If a patient has cavitary disease with or without evidence of systemic illness, antimicrobial therapy should be considered. Unfortunately, therapy for MAC is inherently problematic for several reasons: (1) treatment generally requires the addition of multiple agents with a wide array of toxicities; (2) drug susceptibility testing using standard low-dose concentrations of the traditional antituberculous medications show a consistent pattern of resistance and, therefore, are not useful clinically; (3) the recommended duration of treatment is long (18 to 24 months), and (4) the medications used to treat these infections are expensive. The recommended initial regimen for the treatment of MAC infection is listed in Table 4.<sup>23</sup> The combination of INH, rifampin, ethambutol, and streptomycin has demonstrated sputum conversion rates of 70 to 91%.<sup>37,51</sup> Ethambutol is given at a high initial dose (25 mg/kg/day) for 2 months and then it is reduced to the standard dose of 15 mg/kg/day for the remainder of the course of treatment. Streptomycin is given in 5 doses/week for



6 to 12 weeks, then intermittently for an additional 6 to 12 weeks. The duration of treatment should be 18 to 24 months or at least 12 months after sputum conversion. This is the recommended regimen for patients with "moderate-severe" infection; however, for "rapidly progressive disease," treatment with as many as 6 drugs may be necessary.

Other agents with potential efficacy against

MAC are: amikacin, rifabutin, ethionamide, ciprofloxacin, clarithromycin, and azithromycin. Clarithromycin or azithromycin should be added early in the treatment as both drugs have demonstrated excellent *in vitro* activity and few adverse side effects. There is some preliminary pharmacokinetic data showing that clarithromycin may interfere with the absorption of zidovudine. However, this effect has not been shown to be clinically relevant and there are no comparative clinical trials supporting the use of one agent over the other. In one prospective trial of clarithromycin as monotherapy for MAC infection in immunocompetent individuals, 95% of patients showed improvement in their sputum culture, chest radiograph, or both.<sup>52</sup> Although monotherapy for MAC is not recommended due to concerns about the emergence of resistant organisms, there is growing evidence that both clarithromycin and azithromycin are clinically effective for the treatment of MAC infections. Rifabutin, an agent recently approved for prophylaxis of disseminated MAC infection in patients with AIDS, also holds promise in the treatment of MAC pulmonary infection in nonimmunocompromised patients. For patients with focal pulmonary infection due to NTM and adequate pulmonary function, surgical resection with chemotherapy may be effective treatment.<sup>2-4,26</sup>

Pulmonary infection caused by *M. fortuitum* and *M. chelonae* typically occurs in patients with esophageal disorders. Whenever NTM infection occurs in this setting, therapy needs to address the underlying process as well as the specific infection. These rapidly growing organisms are resistant to almost all first-line antituberculous drugs and therefore require treatment with antibiotics to which they are sensitive. Severe infections caused by the rapidly growing mycobacteria may respond to high-dose intravenous cefoxitin (12 grams/day) and amikacin. Treatment for 2 to 4 weeks with these intravenous medications is recommended, followed by oral doxycycline, sulfamethoxazole, and ciprofloxacin for a total duration of 3 months pending favorable sensitivities.<sup>23</sup>

The recommended prophylaxis and treatment of disseminated MAC infection in the patient with AIDS has recently been reviewed by Masur and colleagues and will only be summarized here.<sup>25</sup> Therapy for disseminated MAC infection in this patient population is problematic and certainly needs to be individualized. Most patients present with nonspecific symptoms of fever, weight loss, night sweats, abdominal pain, diarrhea, and anemia. The diagnosis is based on recovering the

**Table 4. Treatment of NTM Pulmonary Infections Due to MAC<sup>23</sup>**

Clinical Setting	Drug Regimen
Patients with documented infection and moderate-severe disease	INH 300 mg/day and Rifampin 600 mg/day and Ethambutol 25 mg/kg/day for 2 months then 15 mg/kg/day and Streptomycin 500 mg-1000 mg 5 x/week for 6-12 weeks then 3 x/week. Duration of treatment 18-24 months.
Patients with documented infection and rapidly progressive disease	INH 300 mg/day and Rifampin 600 mg/day and Ethambutol 25 mg/kg/day for 2 months then 15 mg/kg/day and Streptomycin 500 mg-1000 mg 5 x/week for 6-12 weeks then 3 x/week in addition to two of the following: Clarithromycin 500 mg 2 x/day or Azithromycin 500 mg/day, and Ciprofloxacin 500 mg 2 x/day Rifabutin 600 mg/day Amikacin 700 mg/day. Duration of treatment at least 24 months.

**Table 5. Average Monthly Cost of Drugs Used to Treat NTM Infections\***

Drug	Dosage	Monthly Cost
INH	300 mg/day	\$6.00
Rifampin	600 mg/day	\$133.00
Clarithromycin	500 mg 2 x/day	\$182.00
Azithromycin	500 mg/day	\$398.00
Ethambutol	1,000 mg/day	\$129.00
Ciprofloxacin	500 mg 2 x day	\$330.00
Rifabutin	600 mg/day	\$443.00
Streptomycin	1.0 g 5 x/week	\$31.00
Amikacin	700 mg/day	\$2059.00

\*Data from a survey of local pharmacies in Oklahoma City. The cost of amikacin is underestimated due to the additional cost to administer an IV medication.



organism from blood, bone marrow, liver, or lymph node cultures. Treatment with single agents such as clarithromycin, azithromycin, or ethambutol has been shown to produce short-term but not long-term efficacy due to the interval development of drug resistance. Current recommendations for the treatment of disseminated infection due to MAC are to initiate treatment with two agents—azithromycin or clarithromycin and ethambutol.<sup>25</sup> The decision to increase the number of drugs in the regimen is a complex one and the potential clinical benefit to the patient must be weighed against the risk of substantial drug toxicity. Other agents that may be useful are clofazimine, ciprofloxacin, rifampin, rifabutin, and amikacin. Response to therapy may be assessed by improvement in systemic symptoms and eradication of the organism from cultures of blood and other sites of infection.

As mentioned previously, the regimens used to treat NTM infection are based predominantly on empiric data. Table 5 lists the average monthly cost of these drugs to the patient, and it is clear from this information that patients on 4 or 5 drugs can experience a significant financial burden. It is therefore imperative that controlled clinical trials be performed that demonstrate not only *in vitro* activity but also clinical efficacy. J

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## Benign Aging or Alzheimer Disease?

Warren F. Gorman, MD

We show that in benign aging, normally functioning elders have minor neurobehavioral deficits in activities of daily living, and in their neurologic, motor and sensory status; hearing is peripherally and centrally impaired. Also, depression appears in 25%.

Gentle physical exercise improves mobility, prevents falls, diminishes pain, wards off depression, reduces mortality, and increases cerebral blood flow and cognition.

Diagnosis of Alzheimer disease consists of (1) proof of dementia, (2) meeting established clinical criteria, and (3) staging of severity. We describe dementia, giving tables to identify it and distinguish it from depression, and cite some reversible dementias. We report the accepted clinical inclusion criteria and exclusion criteria for this disease. We show, also with tables, the staging of severity of both dementia and Alzheimer disease as mild, moderate, or severe.

**A**mong the age-dependent diseases—those which increase in frequency exponentially<sup>1</sup> with aging, such as coronary artery disease, hypertension, and stroke—Alzheimer disease is the most insidious. From its earliest symptoms, principally consisting of memory loss, slowing, and inaccuracy, a period of about four years elapses<sup>2,3</sup> before the diagnosis is made. After diagnosis, the Alzheimer patient remains in the mild stage<sup>4</sup> of this disease, generally retaining competency<sup>5,6</sup> for

another four years. With no specific treatment available at this time, the patient deteriorates gradually, passing through the moderate stage and then the severe stage, with death occurring about eight years after diagnosis.

But elderly people who are normal, including

**Table 1. Activities of Daily Living**

### Self Care

Can the patient, alone, safely:

Feeding .....	Prepare for own meals Eat self prepared foods
Dressing .....	Remove all own clothing Find own clean clothing Dress self
Bathing .....	Bathe self Dry self
Toilet .....	Find toilet Use toilet satisfactorily
Continence .....	Without catheter in place, not wet self with urine Without special devices, not soil self with feces
Transfer .....	By self: Get out of bed Get into wheelchair Get out of wheelchair

### Social

Purchase food
Purchase household supplies, clothing
Handle simple finances
Arrange for public or private transportation
Arrange for nursing and medical care

See Reference 12; and Katz S: JAMA 1963; 185:915

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**Table 2. Elder's Difficulties in Activities of Daily Living  
(100 Community Living, Ambulatory Volunteers, Aged 74-85)**

Activity	No Difficulty (%)	Difficulty, But Does Not Need Help (%)	Needs Help (%)
Stairs	50	45	3
Toilet, continence	68	31	1
Chair	69	29	1
Bed	78	21	1
Dressing	82	17	1
Shopping	83	9	3
Finances, checkbook	88	8	0

See Wolfson L, in Kotzmon, Rowe [1992], Reference 13

**Table 3. Health Scale Items**

Healthy enough to do without help:  
Go out to movie, church, meeting, visit  
Walk up and down to second floor  
Walk half a mile

Which statement fits you best:  
Not limited in any activities

Physical condition or illness now?  
No

Still healthy enough to do without help:  
Heavy work around the house  
= Healthy, Active Elderly

See Rosow, 1966; Reference 16

the aging worried well, also complain of memory loss, slowness, and lack of accuracy, and some therefore fear that they have Alzheimer disease. Here we differentiate the normal elderly from those with Alzheimer disease. First we describe the neurobehavioral and neurological deficits that are within normal limits in aging, and then we contrast these deficits to those comprising the established diagnostic criteria for Alzheimer disease.

### Terms

The elderly are persons 65 years of age or older; early old age is considered to be ages 65 through 74 and advanced old age is from 75 onward. Normal elderly are those who function normally, being competent to subsist independently and to attend their own affairs. The disease-free normal, the statistical normal, and the successful normal<sup>7</sup> all belong in this category. *Benign aging*<sup>8</sup> is another term for elders maintaining their functional normality.

*Age-associated memory impairment* and *age related cognitive decline*<sup>9,10</sup> are synonymous terms. They describe elders with mild deficits who

function normally and have been recently reviewed.<sup>11</sup>

### Activities of Daily Living

A practical test of functional normality is the well-accepted neurobehavioral test which consists of the *activities of daily living*.<sup>12</sup> These activities include both personal or self-care functions, such as feeding and dressing, and also social functions, such as shopping for food and arranging for transportation. In Table 1<sup>11</sup> we list these activities. Normality requires that a person perform these activities reasonably well, but not necessarily perfectly well.

Thus in a sample of men and women living in the community, and not requiring assisted living, senior care, retirement care, or any form of placement, a substantial number had some difficulties in performing these activities. Table 2<sup>13</sup> shows that about one-third had difficulty in getting to the toilet and remaining continent of urine and feces. About one-half had difficulty in getting in or out<sup>14</sup> of bed or a chair, getting appropriately dressed, or shopping at the supermarket.

### Functional Measurement

Other measurements of functional normality are quantitative, as they assign a numerical value to normality and then quantitatively score degrees of abnormality of functions. One scale which focuses on the degree of independence of an elderly person, independence itself being dependent on that individual's mental status, is the Scale of Functional Capacity (Table 3).<sup>15,16</sup> Another method scores the self-report of a person's Functional Status Index.<sup>17</sup>

(Note must be made of the comprehensive grading of degrees of abnormality described in the Minimum Data Set for Resident Assessment and Care Screening. This assessment is required in all U.S. nursing homes since 1990, under the federal Omnibus Budget Reconciliation Act of 1987.<sup>18</sup>)

Criticisms and evaluation of different scales of functional activities, ranging from the primarily physical activities through the principally psychological<sup>19,20</sup> have been published.<sup>21,22</sup>

### Normal Elders' Neurologic Deficits

On examination, the normal elderly have a number of deficits.<sup>23</sup>

In the motor status, the gait of the functionally normal elderly shows anteflexion of the upper spine, flexion of the arms and at the knees, a diminished arm swing, and a shorter step length. Balance is impaired, especially after making a turn with the body. Few 80-year-olds can stand

on one foot unaided. Muscle strength throughout the body is diminished by about one-third. Atrophy of the muscles of the thumb—which perform prehensile motion, facilitating tool use, and have been called the muscles of civilization<sup>24</sup>—appears in over one-half of all elderly subjects.

Reflex deficits appear. Over one-third of the elderly have lost their Achilles tendon ankle jerk on both sides. Palmomental and snout reflexes, which appear in young persons as a sign of frontal lobe disease, appear in one-third to one-half of the elderly.

Sensation also suffers. The elderly show significant loss of touch sensation in the upper extremities, and even on the cornea. Vibration sense and joint position sense, particularly in the lower extremities, are also diminished.

## Hearing

Hearing deficits of a severe degree—with about 40 decibels of hearing loss bilaterally—affect over 28% of the elderly, and are associated with behavioral difficulties.<sup>25,26</sup> This hearing loss consists of both the familiar loss of sensitivity to sounds, such as the sounds one hears during testing by the pure tone audiogram, and also a more complex loss, which we shall describe below.

The loss of sensitivity to sounds is worse at higher frequencies. Within the speech range, which is from 500 Hertz to 4000 Hertz, this expectable hearing loss of the elderly, called presbycusis, is worse in the upper part of the conversational range, markedly from 2000 Hertz upwards. Men are more affected than women.<sup>27</sup>

The more complex loss of normal elders' hearing is a loss of identification and of understanding of words and sentences, which together constitute speech perception. This failure to identify words or sentences is not a feature of being unable to hear them, but instead of being unable to understand them. It is worse with an increase in background noise and with faster speech. Sentence identification suffers more with aging than word identification. Table 4<sup>26</sup> shows how test sentence identification at age 85 is one-half as good as it was at age 25. Studies with the brain stem auditory response, using the event-related potential P300 wave form, suggest that this complex phenomenon involves a central nervous system mechanism.

We shall mention two psychosocial features of hearing loss in the elderly. One is that after giving elderly persons clinical proof that they have a significantly severe hearing loss, 27% refused to acknowledge that they suffered any problems with hearing.<sup>27</sup> Dealing with this prob-

lem of denial and avoidance evokes a physician's persuasive abilities. The other is that elders' hearing loss is associated significantly<sup>26</sup> with depression, which we shall now discuss.

## Depression

Depression is a hazard of aging. About 25% of

**Table 4. Word Recognition and Sentence Identification at Different Ages**

Age	Word Recognition % Correct	Sentence Identification % Correct
25	80	84
65	72	66
75	70	60
85	68	44

See Wallace 1994, Reference 27 at p. 453

**Table 5. The 6-Item Orientation-Memory-Concentration Test**

Items	Error Points	Multiplier	Weighted Error Score
1. What year is it now?	1	4	
2. What month is it now?	1	3	
<b>Memory Phrase</b> "Repeat this phrase after me: John Brown, 42 Market Street, Chicago"			
3. About what time is it? (within one hour)	1	3	
4. Count backwards 20 to 1	2	2	
5. Months of year, in reverse order	2	2	
6. Repeat the memory phrase	5	2	

## Scoring

**A. Error Points** give the maximum number of errors for each item. If the patient makes an error on the months of the year in reverse order (Item #5), he gets 2 error points. On the memory phrase (Item #6), John Brown = 2 error points, 42 Market Street = 2 error points, and Chicago = 1 error point.

**B. Multiplier.** Then multiply the number of error points by the multiplier, the latter being a figure based on clinical and neuropathological findings. Thus if the patient cannot give the month correctly (Item #2), he gets 1 error point; Multiplier 3 times 1 scores 3 Weighted Error Points.

## Clinical Value

A **Weighted Error Score** of 11 or more is consistent with dementia.

See Katzman, 1983; Reference 41



persons older than 65 meet various criteria for depression.<sup>28</sup> It is striking that the suicide rate of elderly males is four times that of the general population. Since the aged frequently deny or minimize being depressed, it is necessary to interview a significant other person.

The symptoms of depression, in this helpful mnemonic,<sup>29</sup> SIG E CAPS, are:

Sleep .... Insomnia, early morning awakening  
 Interest .. Losing interest in usual activities—  
                     work, hobbies, social, sexual  
 Guilt ..... Feeling of self blame is frequent  
 Energy .. Chronic fatigue, weakness, “don’t get  
                     things done”  
 Concentration .....  
                     Inability to concentrate and  
                     slowed thinking  
 Appetite .....  
                     Usually loss of desire to eat,  
                     sometimes overeating  
 Psychomotor .....  
                     Agitation, dysfunctional physical and  
                     mental perturbation  
 Suicide .....  
                     Thoughts of death or of dying (self  
                     or others)

**Table 6. Clinical Diagnosis of Alzheimer’s Disease**

**A. Inclusion Criteria** — presence of all of 1, 2, and 3 must be proved:

1. Duration over 6 months
2. Gradual, “insidious” onset
3. Continued deterioration, in a person who is alert, af:
  - a. memory, plus at least 3 of the following functions:
  - b. orientation
  - c. judgment and problem solving
  - d. community activities
  - e. home and hobby activities
  - f. personal, or self care

**B. Exclusion Criteria** — absence of all of 1, 2 and 3 must be proved:

1. Other neurological disorders
2. Severe psychiatric disorders, particularly depressive and substance disorders
3. Reversible dementias

See: Morris 1988

**Table 7. Some Reversible Dementias**

**A. Neuropsychiatric Disorders**

Overmedication with licit drugs  
 Substance abuse, including withdrawal  
 Depressive pseudodementia

**B. Medical Disorders Which Reduce Cognition**

Anemia  
 Thyroid disease  
 Vitamin B<sub>12</sub> or folate deficiency  
 Pulmonary, cardiac, renal hepatic disorders  
 Some cancers  
 Some diabetic conditions

See: Domosio 1992; Reference 5

With five or more of these symptoms, the diagnosis of depression is merited. With persistence of these symptoms for two weeks to a month, a person’s normality has been interrupted, and treatment is required.<sup>29</sup> Antidepressant medications show their chemical effect after 10 days to two weeks of regularly taking the medications. It should be recalled<sup>30</sup> that the aged are sensitive to many medications, often making it advisable to begin treatment with one-quarter of the adult dose.

**Depressive Decay**

Depression makes other illnesses worse. In a study of over 11,000 patients,<sup>31</sup> persons with depressive symptoms, such as those in SIG E CAPS, or with a diagnosable depressive illness, had worse physical, social and role functioning than those who were not depressed. These depressed persons had more pain and spent more days in bed than did their nondepressed counterparts. Taking to bed grossly reduces one’s “active life expectancy.”

But is there a simple, self-administered method by which we can ward off depression? In one study, many years in length, on almost 7,000 well persons living in the community,<sup>32</sup> they were questioned on symptoms of depression. They also completed the questionnaire on the amount of physical exercise that they regularly performed, such as walking, gardening, swimming, doing various exercises, participating in active sports, etc.

After adjusting for variables such as age, sex, socioeconomic status, social networks in groups or with friends and relatives, there was, over a nine-year period, the expected outcome: Those persons who were regularly more active, compared to those who were less active, did not be-



come depressed, and the less active more often became depressed.

Results in a follow-up period of another nine years were equally persuasive. If a person was inactive during the first nine years and then became highly active during the second nine years, he or she reduced the likelihood of becoming depressed to the low level of those who had been active all along.

Subordinating the question of cause versus effect to the question of pragmatic value, exercise appears to be a worthy weapon with which to fight off depression.

### Preservation

At this time, we do not know why we decline in various functions as the aging process continues. But we are making active progress in learning how to preserve function or to delay many forms of decline that are associated with aging.

For example, coronary artery disease frequently affects older men. But in a 12-year study of retired men 65 years of age and older, the highly physically active men were three times less likely to develop coronary artery disease than were their less active fellows.<sup>22</sup> Exercise thus reduced the likelihood of developing heart disease.

(Other risk factors—which are contributing causes of heart attacks and strokes—are well known. One is using tobacco products. Another is taking a diet that is rich in salt and saturated fat.)

In a group of well-followed elderly Harvard alumni, a high level of activity, resulting in physical fitness that was measured by total treadmill time, was clearly related to mortality. In this group,<sup>22</sup> physical fitness markedly reduced the risk of death from coronary artery disease.

Elderly persons who are sufficiently physically fit to climb a flight of 10 steps, to carry 25 pounds (equal to about two bags of groceries), walk 400 meters, and perform heavy housework<sup>33</sup> have a relatively low risk of stroke. In osteoarthritis of the elderly, which we used to call senile osteoarthritis, exercise not only increases the mobility of the arthritic joints, but also reduces pain.<sup>22</sup> Exercise training that increases muscle mass, which is easily done by the elderly by lifting very small weights, prevents falls,<sup>34</sup> which are a constant factor and fear<sup>35</sup> in the elderly. Increasing the muscle mass of the aged not only increases personal mobility, but also facilitates increased social mobility.<sup>35</sup>

Social activity, such as going out to a movie, church, class, meeting, or social visit,<sup>16</sup> or forming one's own social network,<sup>32</sup> all of which entail a significant amount of physical activity,<sup>37</sup> also helps prevent subsequent decline. In general,

**Table 8. Depression Screening Questionnaire  
(Symptoms in Women and Men)**

Men	Women
Trouble concentrating	Can't shake off blues
Felt lonely	Talk less than usual
Not enjoy life	Felt people were unfriendly
Crying spells	Not enjoy life
Felt sad	Can't get going
Questions: During the past week, have you had....?	
Suggested scoring: 3 or more of the above symptoms suggest depression.	
See Farmer 1988, Reference 45	

disuse causes disability,<sup>36</sup> activity generates ability. Sexual activity, in part a form of psychosocial exercise, may well be equally salubrious. Maintaining a positive affect helps elders to cope with stresses and to preserve physical and mental health.<sup>21</sup>

### Cerebral Blood Flow

Cerebral blood flow is diminished in the normal aged, falling by a significant amount each decade.<sup>8</sup> Rogers and colleagues at Baylor studied the effect on cerebral blood flow in elderly retired persons, some of whom exercised and others did not. As expected, the exercisers had more cerebral blood flow. And over a four-year period they continued to have more cerebral blood flow than their less active fellows.<sup>38</sup> Of major importance to us, their study showed that cognition, including such basic mental phenomena as memory, orientation, and calculation, was preserved during this period in those who exercised, but exhibited the usual gradual decline of the elderly in those who did not exercise. Thus physical activity, in this well-controlled investigation,<sup>22</sup> probably prevented the mental decline of normal aging, a significant step forward.

### Benign but Imperfect

Our elderly decades—the golden years—are not without tarnish.

We describe some of the neurobehavioral and neurological deficits of the elderly that are within the limits of normal functioning, and therefore are part of what we have called *benign aging*. We also show how physical activity and other forms of activity can diminish or delay some of these deficits.

In the next section, we show how to clinically distinguish the normal elderly from those with Alzheimer disease.

**Table 9. Strict Staging of Alzheimer's Disease**

Item	None 0	Questionable 0.5	Impairment Mild 1	Moderate 2	Severe 3
<b>Memory</b>	No memory loss or slight inconstant forgetfulness	Consistent slight forgetfulness; partial recollection of events; "benign" forgetfulness	Moderate memory loss; more marked for recent events; defect interferes with everyday activities	Severe memory loss; only highly learned material retained; new material rapidly lost	Severe memory loss; only fragments remain
<b>Orientation</b>	Fully oriented	Fully oriented except for slight difficulty with time relationships	Moderate difficulty with time relationships; oriented for place of examination; may have geographic disorientation elsewhere	Severe difficulty with time relationships; usually disoriented to time, often to place	Oriented to person only
<b>Judgment and Problem Solving</b>	Solves everyday problems and handles business and financial affairs well; judgment good in relation to past performance	Slight impairment in solving problems, similarities and differences	Moderate difficulty in handling problems, similarities, and differences; social judgment usually maintained	Severely impaired in handling problems, similarities and differences; social judgment usually impaired	Unable to make judgments or solve problems
<b>Community Affairs</b>	Independent function at usual level in job, shopping and volunteer and social groups	Slight impairment in these activities	Unable to function independently at these activities although may still be engaged in some; appears normal to casual inspection	No pretense of independent function outside home. Appears well enough to be taken to functions outside a family home	Appears too ill to be taken to functions outside a family home
<b>Home and Hobbies</b>	Life at home, hobbies and intellectual interests well maintained	Life at home, hobbies and intellectual interests slightly impaired	Mild but definite impairment of function at home; more difficult chores abandoned; more complicated hobbies and interests abandoned	Only simple chores preserved; very restricted interests, poorly maintained	No significant function in home
<b>Personal Care</b>	Fully capable of self care	Fully capable of self care	Needs prompting	Requires assistance in dressing, hygiene, keeping personal effects	Requires much help with personal care; frequent incontinence

See Morris 1993; Reference 49

The diagnosis of Alzheimer disease is made in three steps—proof of dementia, meeting criteria and staging of severity.

#### **Proof of Dementia**

Dementia consists of a loss of cognitive functions—principally recent and remote memory; and also aphasia, or language disturbance; apraxia, or impaired motor or movement ability; agnosia, or impaired ability to recognize objects;

and impaired judgment and problem solving.<sup>10</sup> (If these deficits appear exclusively during a delirium, the diagnosis of dementia should not be made.)

For the diagnosis of dementia, these cognitive losses must cause a substantial impairment of social and occupational functioning. They therefore must substantially exceed in severity the losses that appear in age-associated memory impairment, age-related cognitive decline, age-

**Table 10. Functional Assessment Staging Test**

Stage	Characteristics	Clinical Diagnosis
1	No objective or subjective functional decrement	Normal Adult
2	Subjective deficit in recalling names or other word finding and/or subjective deficit in recalling location of objects and/or subjectively decreased ability to recall appointments. No objectively manifest functional deficits.	Normal aged Adult
3	<i>Deficits noted in demanding occupational and social settings</i> (e.g., the individual may begin to forget important appointments for the first time; work productivity may decline); problems may be noted in traveling to unfamiliar locations (e.g., may get lost traveling by automobile and/or public transportation to a "new" location or spot).	Compatible with incipient AD
4	<i>Deficits in performance of complex tasks of daily life</i> (e.g., paying bills and/or balancing checkbook; decreased capacity in planning and/or preparing an elaborate meal; decreased capacity in marketing, such as in the correct purchase of grocery items).	Mild AD
5	<i>Deficient performance in choosing proper attire, and assistance is required for independent community functioning</i> — the spouse or other caregiver frequently must help the individual choose the appropriate clothing for the occasion and/or season (e.g., the individual will wear incongruous clothing); over the course of this stage some patients may also begin to forget to bathe regularly (unless reminded) and automobile driving capability becomes compromised (e.g., carelessness in driving on automobile and violations of driving rules).	Moderate AD
6a	<i>Requires actual physical assistance in putting on clothing properly</i> — the caregiver must provide increasing assistance with the actual mechanics of helping the individual clothe himself properly (e.g., putting on clothing in the proper sequence, tying shoelaces, putting shoes on proper feet, buttoning and/or zipping clothing, putting on blouse, shirt, pants, skirt, etc., correctly).	Moderately Severe AD
6b	<i>Requires assistance bathing properly</i> — the patient's ability to adjust bathwater temperature diminishes; the patient may have difficulty entering and leaving the bath; there may be problems with washing properly and completely drying oneself.	Moderately Severe AD
6c	<i>Requires assistance with mechanics of toileting</i> — patients at this stage may forget to flush the toilet and may begin to wipe themselves improperly or less fastidiously when toileting.	Moderately Severe AD
6d	<i>Urinary incontinence</i> — this occurs in the absence of infection or other genitourinary tract pathology; the patient has episodes of urinary incontinence. Frequency of toileting may mitigate the occurrence of incontinence somewhat.	Moderately Severe AD
6e	<i>Fecal incontinence</i> — in the absence of gastrointestinal pathology, the patient has episodes of fecal incontinence. Frequency of toileting may mitigate the occurrence of incontinence somewhat.	Moderately Severe AD
7a	<i>Speech limited to about 6 words in the course of an average day</i> — during the course of an average day the patient's speech is restricted to single words (e.g., "Yes," "No," "Please") or short phrases (e.g., "please don't hurt me"; "get away"; "get out of here"; "I like you").	Severe AD

See Sclan 1992; Reference 50  
AD = Alzheimer disease

consistent memory impairment, and late life forgetfulness.<sup>40</sup>

A validated short test for dementia, useful in Alzheimer disease, is the six item Orientation, Memory, Concentration Test (Table 5).<sup>41</sup> On this

test, two items—the memory phrase and the months of the year backward—are the first items to fail in early Alzheimer disease.

Dementia of the Alzheimer type is progressive. If on examination the history does not ob-



Table 11. Stages of Severity of Dementia

Stage	Characteristics
<b>Mild</b>	Capable of independent living Personal hygiene is adequate Judgment is almost intact Moderate memory loss; difficulty with complexities Interests and drive slightly impaired
<b>Moderate</b>	Independent living is hazardous Personal hygiene requires assistance Judgment manifestly impaired
<b>Severe</b>	Disoriented Severe memory loss Frequent incontinence Requires continual supervision

See DSM-III-R 1987; Reference 10

Table 12. Alzheimer Disease — Neurological Work-Up

<b>A. Mental Status</b>	
Dementia, gradually worsening	Table 5, Table 6
Not due to treatable or reversible dementias	Table 7
Not due to depression	Table 8 and "SIG E CAPS"
<b>B. Neurological and Physical Examination Findings</b>	
No focal abnormalities (e.g., suggesting stroke)	
No extrapyramidal signs or gait disorder (e.g., suggesting Parkinsonism)	
<b>C. Laboratory</b>	
Routine	Often Indicated
CAT scan or MRI of head	Chest x-ray
±PET ±SPECT	Urinalysis
Serum electrolytes, include calcium	Urine for heavy metals
Glucose	Toxicology screen
BUN, creatinine	Neuropsychological testing
Liver function tests	EEG
Thyroid function tests	
Serum B <sub>12</sub>	
Syphilis and HIV testing	

See Quality Control Committee; Reference 43; Cummings 1992; Reference 4

jeetively show significant cognitive losses during the past six months, the patient should be re-examined six months hence.<sup>42,43</sup>

### Meeting Clinical Criteria

The diagnosis of Alzheimer disease is a diagnosis of exclusion. Beginning with the proof of a deteriorating form of dementia, the Alzheimer diagnosis proceeds to exclude the other likely causes of such a dementia. Thus in Table 6, the inclusion criteria<sup>44</sup> describe this dementia, and the

exclusion criteria name the other conditions which are generally similar. Some of these other conditions are neurological in their manifestations, such as vascular dementia, or multi-infarct dementia, which is associated with untreated hypertension, and Parkinson disease.

Two other similar conditions are also frequently seen in family practice. Substance-induced persistent dementia<sup>39</sup> is the result of taking excessive amounts of or too many medications, or illicit chemicals, for pain, stiffness, tranquilizing, or sleep. Urine screening and blood quantification confirm this diagnosis. This dementia is reversed by withdrawal, combined with giving personal support with encouragement. Table 7 notes some other reversible dementias.

Another frequent condition is the pseudodementia of depression, in which depression can cause, or worsen, the symptoms of Alzheimer disease. In Table 8, we give a five-item questionnaire designed to screen for depression.<sup>45</sup>

Neuropsychological testing is not generally necessary, but when done, should routinely include an examination for depression. Many forms of depression respond well to simple treatment.

During the patient's life, the diagnosis is usually made by the patient's personal physician and then confirmed by a neurologist, following these steps above. In very early and in very mild stages of Alzheimer disease, the neurological examination, except for the mental status, is normal.<sup>43,46</sup> We summarize the neurological work-up in Table 12.<sup>41,43,46</sup>

After the death of the patient, usually within seven to eight years following the onset of symptoms, it is the neuropathologist who makes the final anatomical diagnosis, by histopathologic examination of the brain. We know now that the many different varieties of Alzheimer disease are associated with an increase in neurofibrillary tangles and amyloid plaques in the neocortex and in the hippocampal formation. Standards for the histopathologic diagnosis have been formulated.<sup>52-54</sup> We do not yet know the cause, or the cure, of this deadly plague. But donating your brain, through your will, to the Brain Bank, will help our search for prevention and for treatment that may be necessary for your loved ones in their aging years.<sup>47</sup>

### Staging of Severity

Grading the degree of severity, or staging, the severity of Alzheimer disease is important because in the mild or early stage, the patient is reasonably capable of independent living and of tending his or her own affairs. Thus a patient in

the mild stage, when clear and simple instructions are given, can still satisfactorily manage medications, arrange for transportation, and make a will.<sup>48</sup> But when the disease progresses, after about four years, to the moderate stage, and then in another four years to the severe stage, the patient is no longer competent, either medically or legally, to perform these activities of daily living.

Many methods of staging Alzheimer disease have been reported,<sup>46</sup> objectively describing details of the patient's behavior and mental functioning. In Table 9, we give a recent system of staging. And in Table 10, we see another description of the deteriorating and dilapidating mental state that is the core of this condition.<sup>50</sup>

But since the Alzheimer patient's behavior is dependent on the dementia with which he or she is stricken, we also present, in Table 11, the staging of dementia.<sup>51</sup> Note how similar the stages of dementia are to the stages of Alzheimer's, the most common dementing disease.

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## Acute Necrotizing Fasciitis in Childhood

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**Acute necrotizing fasciitis is a rare but frequently catastrophic infection of the subcutaneous tissues and fascial sheaths. It is rare in infants and children. The case of a 3½-year-old boy with acute necrotizing fasciitis caused by group A beta hemolytic streptococcus is described.**

**N**ecrotizing fasciitis is a rare infection of the subcutaneous tissues and fascial sheaths. It results in extensive undermining of surrounding tissues. Initially skin is spared, but as the necrotizing process spreads, all the soft-tissue components, including the skin, become involved. It may be accompanied by blood stream invasion. If not recognized promptly and treated appropriately, this disorder may prove fatal. It is rare in children. It is the purpose of this communication to describe a case of this unusual disorder in a child.

### Case Report

M.F., a 3½-year-old American Indian boy, had experienced recurrent right knee hemarthroses since 12 months of age. One month prior to admission he was diagnosed as having von Willebrand's disease Type III. The diagnosis was confirmed at Children's Hospital of Oklahoma. About 10 days prior to admission, the patient developed yellow crusty lesions on his knee that were treated by his local physician with bacitracin applied

topically. Two days prior to admission, he developed fever to 105°F, swelling of his right knee, and emesis. He was hospitalized in his community hospital by his local physician and received intravenous fluids and eryoprecipitate. A blood culture was obtained, but no antibiotics were given. The swelling continued to progress, and the patient remained febrile. When the blood culture obtained earlier was found to be growing group A beta-hemolytic streptococcus, the patient was given a single dose of methicillin and transferred to Children's Hospital.

On arrival, the patient appeared quite ill. Although he was afebrile and his other vital signs were normal, his level of consciousness waxed and waned. The most impressive findings related to his right leg. There was mottling of both legs and buttocks, with swelling and ecchymosis over his right knee. The patient did not move the right leg and it was cool to touch. There was marked difference in diameter measurements of the right versus left leg. At mid-thigh, the right leg measured 4 cm greater in diameter than the left leg, at mid-calf the right was 4 cm larger, and immediately above the knee the right was 4.5 cm larger than the left. The dorsalis pedis and posterior tibial pulses were palpable in the left foot, but not in the right. Capillary refill of toes on the right foot was 8 seconds, and on the left foot 4.0 seconds.

Significant laboratory findings on admission included a leukocyte count of 12,000/cu mm with a marked shift to the left (24% segmented neutrophils and 65% band forms). Hemoglobin was 10.8 gm/100 ml, hematocrit was 33.5%, and plate-

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lets 79,000. Chemistry profile was within normal limits except for sodium concentration of 130 meq/l, carbon dioxide level of 16 meq/l, lactate dehydrogenase level of 1476 u/l, and alanine aminotransferase (SGPT) level of 149 u/l. Fibrinogen degradation product level was 320 meq/ml (normal, 0 to 10 meq/ml), fibrinogen was 430 mg/dl (normal, 200-400 mg/dl), prothrombin time was 13.1 sec. (normal, 9.9 to 11.3 sec.), and partial thromboplastin time was 55.3 sec. (normal, 28 to 36 sec.). The patient was considered to have disseminated intravascular coagulation. He was transfused with cryoprecipitate and started on therapy with oxacillin 200 mg/kg/day and cefotaxime 200 mg/kg/day administered intravenously.

Orthopedic consultation was obtained shortly after admission. Aspiration of the pre-patella bursa and right knee joint was performed and revealed bloody fluid. Compartment pressures were measured and found to be significantly elevated (medial 30 mm, anterior 47 mm, and posterior 60 mm). The diagnosis of compartment syndrome of the right lateral thigh and all compartments of the right lower leg with probable necrotizing fasciitis was made (Fig. 1). Later on the day of admission the patient was taken to the operating room where a fasciotomy of the right lateral thigh and four compartments of the lower leg was performed (Fig. 2); the findings at operation confirmed the above diagnosis. Postoperatively, antimicrobial therapy was changed to penicillin G and clindamycin. Multiple cultures taken at operation grew Group A beta-hemolytic streptococci.

Because of increased compression of the right ankle and foot, the patient underwent a fasciotomy of these areas on the fourth hospital day (Fig. 3). Again, Group A beta-hemolytic streptococci were isolated from multiple sites.

On the sixth hospital day, exploration of the fascia of the anterior thigh was performed and the muscles in this area appeared viable. Cultures taken from these sites during this procedure were negative.

The patient underwent intensive physical therapy daily. On hospital day 16, the patient underwent an amputation mid-shaft below the right knee. Postoperatively, the patient went through a period of withdrawal during which he refused to communicate even with his family. With appropriate psychologic support, this began to lessen. On the nineteenth hospital day, the patient underwent a patellectomy and partial closure of the right knee disarticulation stump. The remainder of the area was allowed to close by secondary intention.

The patient's hospital stay was complicated



Figure 1. Right lower extremity shortly after admission showing multiple bullae, edema, and discoloration of skin.

by several other problems. On the second hospital day, he was noted to have evidence of myoglobinuria accompanied by slowly rising BUN and creatinine concentration. He became oliguric and the BUN and creatinine values rose to a high of 97 mg/dl and 4.3 mg/dl, respectively, on the sixth hospital day. Hemodialysis was attempted, but the patient developed severe bronchospasm thought to be secondary to an allergic reaction to the plastic dialysis tubing. Therefore dialysis was abandoned. Since the patient was metabolically stable, he was managed with close observation of electrolyte levels and fluid restriction. By the ninth hospital day, his urine output increased, and BUN and creatinine levels began to decline. By discharge his BUN had decreased to 10 mg/dl and creatinine to 0.4 mg/dl.

Despite treatment with penicillin G and clindamycin, the patient continued to spike almost daily fevers. Repeated diagnostic evaluations for the cause of his fever, including blood and urine cultures, failed to reveal a cause. However, on the thirteenth hospital day, two bladder urine specimens obtained by catheterization grew *Pseudomonas* species, 10,000 to 50,000 organisms/ml. Treatment with tobramycin 1.5 mg/kg was begun, dosage being adjusted in view of the patient's reduced renal function. There was a prompt clinical response. A repeat urine culture on the nineteenth hospital day was negative. The

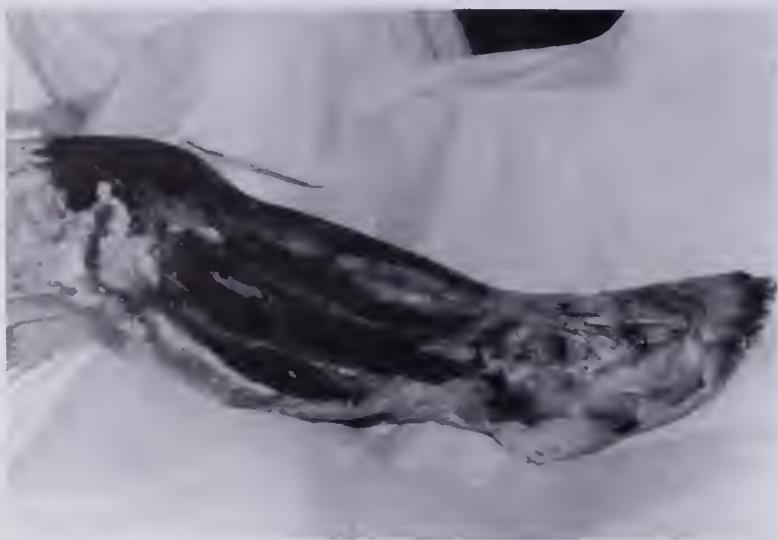


Figure 2. Right lower extremity showing extensive necrosis of fascia and destruction of skin.

patient received seven days of treatment with tobramycin for his urinary tract infection.

During his hospital stay, the patient required multiple transfusions with cryoprecipitate, factor VIII fresh frozen plasma, and packed red blood cells. His factor VIII levels were followed closely, and maintained in an acceptable range, minimizing any problems with bleeding. The patient was discharged in good condition one month after admission.

He is followed regularly, is adjusting well to his handicap, and has now been fitted with a permanent leg prosthesis. His ambulation rapidly and steadily improved.

### Discussion

Despite media reports to the contrary, necrotizing fasciitis is not a new disease. In July 1862 Joseph Jones, a remarkable Confederate medical officer, was asked to see a soldier from a Florida regiment who was a patient at a hospital in Augusta, Georgia. The soldier had a fulminating infection with marked destruction of soft tissues accompanied by discoloration of the affected parts. Jones was both shocked and excited by this disease, which he termed "hospital gangrene."<sup>1</sup> He undertook experimental studies of the disease and clinical studies of it in armies and hospitals in the Confederate Army. Based on his clinical and microscopic descriptions, it seems certain that many of the patients he encountered had acute necrotizing fasciitis. Jones prepared a report for Confederate Surgeon General Samuel P. Moore, but because of the burning of Richmond the report was not published. Fortunately, it was preserved.<sup>2</sup> The full report, in all of its voluminous

detail, was subsequently published after the Civil War by the United States Sanitary Commission.<sup>3</sup>

Pfanner,<sup>4</sup> in 1918, described patients with "necrotizing erysipelas" from which he cultured beta hemolytic streptococci.<sup>5</sup> In 1924, Meleney<sup>6</sup> described 20 cases of "streptococcal gangrene" observed in Peking. Meleney believed that subcutaneous necrosis was the essential feature of the infection and that the etiologic agent was a hemolytic streptococcus. McCafferty and Lyons<sup>7</sup> and Beathard and Guckian<sup>8</sup> concluded that the infection was a fascial plane abscess and stated that antimicrobial treatment without surgical drainage was ineffective. Wilson<sup>9</sup> first used the term "necrotizing fasciitis" when, in 1952, he described findings from 22 adults whose infections were most commonly due to staphylococci. Meade and Mueller,<sup>10</sup> Crosthwait et al.,<sup>11</sup> and Andrews and Cruz<sup>12</sup> described acute necrotizing fasciitis caused by *Pseudomonas*, other gram-negative organisms, and combinations of gram-positive and gram-negative bacteria. Rae and Wyrick,<sup>13</sup> in a series of 44 patients, found 9 infections occurred after surgical operation,<sup>27</sup> or followed minor trauma, and 8 patients had no history of injury.

**Clinical Manifestations.**—Acute necrotizing fasciitis is relatively rare in childhood. As late as 1973, none of the standard pediatric tests mentioned the disorder, and by that date only five cases in children had been reported in the literature.<sup>5</sup> The disorder has now been observed in several newborns.

Although necrotizing fasciitis may involve any part of the body, the most common location in children is the lower extremity. The upper extremity, genitalia, and trunk also may be involved, and cases involving the scalp, face, and thorax have been reported. There seems to be a higher incidence in males than females, perhaps because of their greater liability to injury. There is no correlation with age, and cases have been reported in all age groups.<sup>3</sup> The infection generally has its onset following trauma, even though it may be very minor, such as a needle injection, insect bite, slight abrasion, or blunt trauma. In a few cases, no history of trauma can be obtained.<sup>8</sup>

Infection may begin at the site of an injury, in an operative wound, or may develop without apparent cause. The infection most commonly involves the trunk and extremities. The infection spreads rapidly along fascial planes, producing thrombosis of nutrient vessels resulting in necrosis and destruction of overlying subcutaneous tissue and skin. Underlying muscle may become infected if the fasciitis is not treated appropriate-



ly or if the fascial sheath has been penetrated by a traumatic injury.<sup>5</sup> The involved area first becomes swollen, erythematous, painful, and warm. In contrast to erysipelas, the border is not raised and well defined, and the development of lymphangitis or lymphadenitis is unusual.<sup>5</sup> The overlying skin develops a dusky blue-gray color and bullae may appear. Fluid aspirated from bullae may be yellow, black, or red in color and usually contains the infecting organism. If the process is not interrupted by medical and surgical means, the overlying skin will slough. The area is initially painful but later becomes insensitive as cutaneous nerves passing through necrotic subcutaneous tissue are destroyed.<sup>5</sup> The blood stream may be invaded by the causative organism.

Initially, infections in this group appear much like ordinary cellulitis, with erythema, edema, and tenderness. The area of involvement tends to be extensive and induration is marked, frequently extending beyond the area of erythema. A dusky area indicating poor perfusion of tissue frequently appears. Blebs and bullae often occur, and areas of skin necrosis become apparent, generally in the center of the involved area.<sup>14</sup> These cutaneous changes are secondary to thrombosis of the cutaneous vessels passing through the zone of fascial necrosis.<sup>8</sup> Infections of the necrotizing fasciitis/cellulitis group can be separated from gas gangrene clinically by the absence of gas or crepitation in the tissues. Many patients with necrotizing cellulitis and fasciitis develop severe systemic illness and remarkable general debilitation. Edema, hypoproteinemia, and proteinuria may develop before the process is halted. Hypocalcemia, related to deposition of calcium in necrotic tissue, is seen in certain patients. The most characteristic aspect of the clinical course of these infections is their relentless progress, despite administration of antibiotic therapy against the responsible agent, even when administered in large doses by parenteral routes.<sup>14</sup>

The disease is dramatic in its rapid and fulminating course. Within 24 hours after the appearance of the original lesion, the involved area becomes edematous, red, hot, and painful. These signs spread rapidly from the original focus with an irregular border that fades into normal tissue. Marked pain may be present at the onset, but numbness and later anesthesia develop in most cases. Anesthesia is secondary to damage to cutaneous nerves passing through the area of necrotic subcutaneous fascia. This feature can be used as an aid in differential diagnosis.<sup>8</sup>

Generally, within the first 24 hours, a moderate temperature elevation and a rapid pulse rate,



Figure 3. Showing extension to thigh.

which may be out of proportion to the fever, develop. The characteristic of the disease is an extreme degree of prostration and indifference to surroundings. This feature is also a useful aid in differential diagnosis.<sup>8</sup>

On the second or third day, and on occasion as late as the fourth day, the pathognomic features of the disease appear. The skin changes from red to a dusky hue, appearing as small blue or bluish-black patches with irregular, ill-defined borders. These patches fade into the peripheral areas, which remain red or become rusty in appearance. Bullae are generally present in the discolored area and are filled with reddish-black fluid. The area may appear as though it had been burned. These cutaneous changes are secondary to thrombosis of the cutaneous vessels passing through the zone of fascial necrosis. By the fourth or fifth day, vascular changes give rise to frank cutaneous gangrene. Before the antibiotic era, the local infection frequently disseminated and caused painful subcutaneous abscesses, bronchopneumonia, pulmonary abscess, or empyema.<sup>3,8</sup> The fundamental pathologic lesion is fascial necrosis or gangrene. Muscle, bone, and other tissues are not primarily involved unless they are exposed by the original wound. The fascial septa between the muscles are frequently involved. A point of diagnostic importance is that after opening the skin, a probe or hemostat may be easily passed along the fascial plane superficial to the deep fascia.<sup>8</sup>

**Diagnosis.**—A microbiologic diagnosis may be made by the isolation of pathogenic bacteria from blood, tissue aspirate, or wounds. A laboratory search for anaerobic organisms should be made. Smears or biopsied specimens of affected



tissue should be examined for the presence of organisms, particularly as previous antibiotic therapy may have rendered cultures sterile without halting the clinical progression.<sup>14</sup>

In ten children with the clinical diagnosis of necrotizing fasciitis in whom adequate cultures were obtained, cultures from the site of fasciitis were positive in all ten patients. Seven of ten blood cultures yielded the same organism present in the lesions. Gram-positive cocci were cultured from the site of fasciitis or from blood or from both sources in ten patients. Five were group A beta hemolytic streptococci, one was *Staphylococcus aureus*, one was alpha hemolytic streptococcus, and three were *Staphylococcus epidermidis*. In one patient *Staphylococcus epidermidis* was associated with *Escherichia coli*. *Pseudomonas aeruginosa* was isolated from both culture sources in one patient.<sup>5</sup>

Differential diagnosis includes erysipelas, cellulitis due to *Hemophilus influenzae* type B or group A beta-hemolytic streptococcus, clostridial myositis, and chronic necrotizing fasciitis. Cellulitis and erysipelas are excluded by their appearance and by the absence of undermining infection along the epifascial sheath. Clostridial cellulitis or myositis is characterized by crepitation, and gram-positive bacilli are present in smears of aspirated material. The chronic form of necrotizing fasciitis is associated with a previous wound or sinus tract and has a slow progression over several days to weeks. These patients tend to have mild constitutional symptoms with low grade fever.<sup>5</sup> Hyponatremia and hypoproteinemia may occur secondary to edema and plasma loss into the affected area. Anemia is common and may be severe, presumably due to bone marrow depression or hemolysis. Hypocalcemia can develop and is thought to be caused by saponification following necrosis of fat.<sup>5</sup>

**Therapy.**—Adequate therapy of this potentially lethal disorder involves appropriate antimicrobial therapy, surgical debridement of necrotic tissue, and meticulous supportive care.

Although streptococci have been the agents reported most frequently in the past, penicillin-resistant staphylococci and gram-negative bacteria should be considered as etiologic agents also. If gram-positive cocci are seen on gram stain, a penicillinase-resistant penicillin should be selected for initial antibiotic therapy and given intravenously in high doses. If a mixed gram-positive coccal and gram-negative bacillary population is seen on gram stain, an aminoglycoside should be used in combination with a penicillinase-resistant penicillin until culture results are available.

Antibiotics of the penicillin group will cover anaerobes with the exception of the bowel organisms *Bacteroides fragilis*, which should be considered in cases in which necrotizing fasciitis follows contaminated abdominal surgery. Clindamycin, chloramphenicol, or cefoxitin is the drug of choice when *Bacteroides fragilis* is encountered.<sup>14</sup>

The treatment of necrotizing fasciitis should combine fasciotomy with wide debridement, appropriate antimicrobial therapy, and meticulous supportive care. When fasciitis is considered, an incision extended to the fascia should be performed and an attempt made to pass a probe along the fascial surface. If a probe can be moved easily along this plane, fascial involvement is confirmed and extensive incision and debridement of fat and fascia to the limits of the infection must then be conducted. To defer operation while antimicrobial therapy alone is relied upon is usually ineffective. Although streptococci are the most common cause of infection, as in our patient, penicillin-resistant staphylococci and gram-negative bacteria should be considered. If gram-positive cocci are seen in stained specimens, a penicillinase-resistant penicillin should be selected for initial therapy. If group A beta-hemolytic streptococci is recovered from the culture, penicillin G should be substituted. If a mixed coccal and bacillary population is present, a penicillinase-resistant penicillin and gentamicin sulfate would be a reasonable choice of antibiotics until culture and antimicrobial susceptibility results are available.<sup>5</sup>

After confirmation of subcutaneous, fascial, or muscle necrosis, extensive incision and debridement of fat, fascia, and any involved muscle to the limits of the involved area must be carried out. It has been a common experience that unless debridement extending to healthy tissue is made, the surgical procedure will have to be repeated.<sup>14</sup>

Most patients with this disorder develop anemia and require blood transfusions. Intravenous calcium may be necessary for hypocalcemia.

**Prognosis.**—Patients with infection of the necrotizing cellulitis/fasciitis group tend to become seriously ill and may die if not treated promptly. Supportive care should include careful fluid therapy, evaluation for hypocalcemia, and adequate nutritional support. The extensive surgical debridement often needed may require prolonged convalescence and rehabilitation for the patient, including skin grafting and physical therapy.<sup>14</sup> Involvement of the extremities may require amputation.

Early diagnosis followed by optimal medical

and surgical management markedly influences prognosis. Case fatality rates have varied from one series to another. During the Civil War the disease was fatal in some 46% of patients.<sup>15</sup> Wilson<sup>9</sup> reported a fatality rate of 8.7%, and 31% died in the series reported by Crosthwait et al.<sup>11</sup> Strasberg and Silver,<sup>16</sup> after a review of several series in the literature, reported a fatality rate of 16% in cases treated before the availability of antibiotics compared, surprisingly, with a rate of 20% following antibiotic introduction. The disease in the neonatal period may progress particularly rapidly.<sup>17</sup>

## Summary

A 3½-year-old boy with acute necrotizing fasciitis is reported. The pathologic, clinical, and other aspects of this rare, serious disorder are described.

## Acknowledgment

Appreciation is expressed to Miss Kristi S. Stone and to Mrs. Gurn Johnson for typing the manuscript.

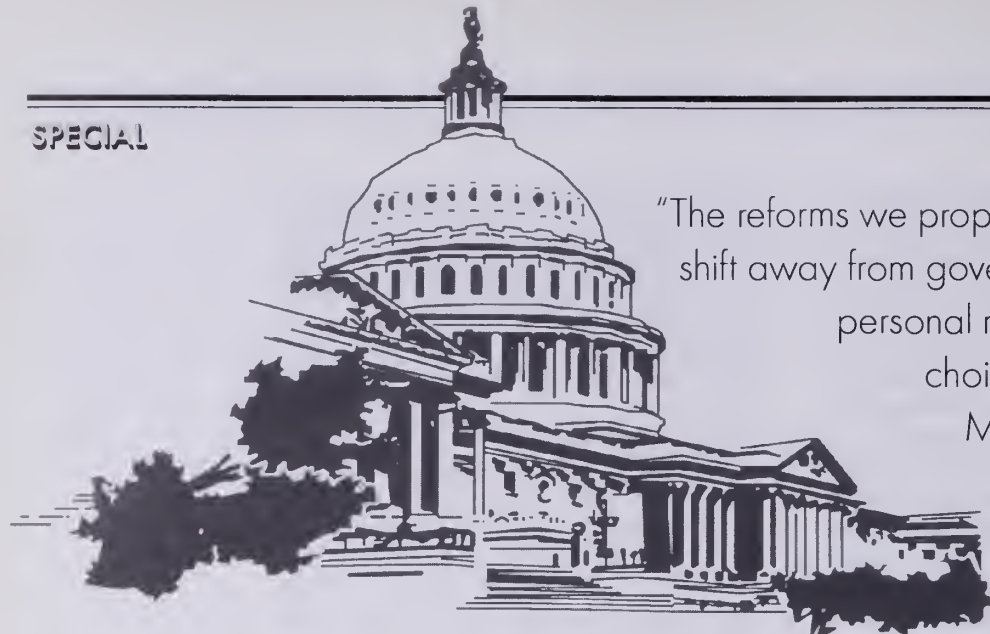
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"The reforms we propose are a fundamental shift away from government control toward personal responsibility, individual choice, and an invigorated Medicare marketplace."

## AMA Statement to the House Ways and Means Committee Subcommittee on Health

Address of AMA President Lonnie R. Bristow, MD, to the House Ways and Means Committee's Subcommittee on Health in Washington, D.C., July 19, 1995.

**M**r. Chairman, my name is Lonnie R. Bristow, MD. I am an internist from San Pablo, California, and president of the American Medical Association (AMA). on behalf of the 300,000 physician and medical student members of the AMA, I thank you for the opportunity to present testimony to the subcommittee today regarding the AMA's proposal to transform Medicare. We are pleased to share our thoughts with you as the Congress considers how to best protect the promise of Medicare in an era of sharply limited resources.

A wide range of experts have independently concluded that, despite Medicare's clear success in improving the health status of our elderly and disabled citizens, the program cannot be sustained without a fundamental restructuring. The AMA has testified before this subcommittee earlier this year regarding those factors precipitating Medicare's current crisis. The time has passed for tinkering and minor modifications. In light of what is known about the program's structural flaws and its looming bankruptcy if basic reforms are not made, the AMA has synthesized almost ten years of policy consideration and research by our association into the proposal we will describe to you today and which has been distributed to every member of the Congress. It is based on principles that the AMA has repeatedly advocated for reforming Medicare to correct current structural

problems and to reduce the dependency of future generations on subsidized government medical care.

The reforms we propose are a fundamental shift away from government control toward personal responsibility, individual choice, and an invigorated Medicare marketplace. The AMA's proposal is based on the idea of a competitive *market-driven* system as the best option for the future of the Medicare program because it offers more *choice* to senior citizens and the disabled. We must give the patient both the opportunity and the responsibility to make wise prospective choices of physician and financing mechanism, with the reasonable opportunity to change either if they prove unsatisfactory. An effective health care marketplace is only achievable if we rid ourselves of the current program's distortions that have had the perverse effect of aggravating, rather than easing, the government's burden in keeping Medicare's promise. As long as Medicare insulates patients from the true cost of the services they are consuming, a competitive Medicare marketplace will never flourish and costs will continue to escalate.

### AMA's Proposal for Medicare Transformation

Distilled to two central ideas, AMA's proposal is premised on the belief that:

- Individual responsibility, changed incentives, and reduced administrative costs will produce *savings* for most patients and lead to the fiscal integrity of the Medicare program; and



• Medicare beneficiaries—our patients—should have enhanced *choice* and the *ownership* and *responsibility* for their Medicare entitlement, while receiving the highest quality medical care.

## **Savings**

How can a system premised on choice and individual responsibility offer savings to the Medicare program? When individuals have a financial stake in their medical care, they are more likely to be prudent consumers and seek the highest value for their money. Patients and physicians alike become sensitized to price and, more important, value. When marketplace distortions are eliminated through the removal of government price controls, physicians and other providers will compete in the marketplace. The private sector has demonstrated that competition can yield savings.

These savings are the result of a more prudent use of resources by patients, coupled with increased efficiency by physicians. Enhanced beneficiary cost-consciousness does not have to mean substantial increased costs for beneficiaries. It is primarily the manner in which beneficiaries pay today—not the amount—that defeats any incentive to use the program efficiently. Our proposal will actually bring an estimated 40% of beneficiaries some level of savings. It will leave about half of beneficiaries no better or worse off than if they had remained under the current system, and it will call on an estimated 10% to pay marginally more. This benefit accrues while simultaneously saving the program billions of dollars.

Nor do these savings have to come from a continuation of past failed policies repeatedly reducing physician payments. Physicians have, year after year, contributed their fair share to the budget deficit effort. Physicians, who account for 23% of Medicare outlays, have absorbed 32% of Medicare provider cuts over the last decade. Projected further declines, based on the current flawed payment formula, will actually bring physician payments lower, at the end of the century, than they were at the beginning of the 1990s when RBRVS was first implemented. Our proposal achieves savings while minimizing further reductions that will push many physicians over their own budgetary red line, reducing or eliminating entirely their ability to continue caring for Medicare patients. Competition requires that prices be decontrolled and beneficiaries rewarded for seeking better value in the marketplace. Our proposal for physician price competition builds on the current RBRVS-based system. We call on the secretary of HHS to design a similar system for DRG-based hospital payments in the HI program, as well.

Some have mistakenly portrayed the AMA's plan

as allowing for "balance billing." This is an inaccurate and misleading characterization, as the concept of "balance billing" is a remnant of the government "command and control" system which we are attempting to transform. This old system perversely serves to penalize physicians for setting their prices too low. The AMA's proposal would allow the government to set its price, physicians to set their conversion factor, and patients to compare value among competing caregivers. Given that approximately 93% of physicians who currently treat Medicare patients accept assignment, the hypothesis projected by our critics of steeply escalating prices appears unfounded.

As another element of savings, AMA's proposal greatly reduces waste and unnecessary administrative costs. An undistorted market will wither nonessential costs, while maintaining those elements that truly contribute to greater value in caregiving. In addition, the AMA advocates institutionalizing modernized Medicare administrative practices to include computerization of patient records and claims systems (embracing confidentiality and security measures for individuals' health information), a public-private partnership to explore telemedicine's promise, and changing payment policies to encourage preventive care and care provided in subacute or home settings.

## **Beneficiary Choices**

The heart of AMA's proposal would provide the elderly and disabled with several different options for Medicare. Each Medicare beneficiary would have an expanded set of choices that range from remaining in the restructured traditional Medicare program, to selecting from various competing health plans (including managed care options), to investing in a medical savings account (MSA) coupled with a catastrophic plan. In general, Medicare patients would have enhanced opportunities to make prudent use of medical care resources and to be personally rewarded for those decisions.

How might people actually take advantage of greater personal responsibility under a transformed Medicare? One patient, for example, upon enrolling in the Medicare program, may decide to stay in "traditional" Medicare. Her spouse, however, may want to take advantage of one of the many managed care plans offered under a new "Medichoice"—a plan very similar to the Federal Employee Health Benefit Plan (FEHBP) he had enjoyed when he was a postal worker. Their neighbor may decide to take advantage of the MSA option with a high deductible catastrophic policy offered under Medichoice. Each beneficiary could personally tailor the program to fit his or her individual circumstances and, in the vast

We must give the patient both the opportunity and the responsibility to make wise prospective choices of physician and financing mechanism...

Medicare must be transformed into a defined contribution program to tighten the program's original open-ended entitlement...

majority of cases, each Medicare beneficiary will save money or spend the same amount as under the current system.

**I** A beneficiary electing to remain in the modified "traditional Medicare:

- Would only have one form of cost sharing to replace the current multiple deductibles and coinsurance—once they met a preset yearly deductible, all costs for covered services would be paid by Medicare, and beneficiaries would get a refund if they did not use their deductible amount;
- Would have no need to purchase Medigap insurance for deductibles and coinsurance of covered services and no need to fill out yet more forms; and
- Would be able to compare value in choosing a physician using, in part, a published "conversion factor," and either pay the difference when the physician charges exceed the government payment or keep the savings when the government payment exceeds the physician charges.

This modified form of beneficiary cost-sharing will serve to reduce, on average, the individual's out-of-pocket costs, reward individuals for being prudent consumers of routine medical services, and reduce both patient and provider paperwork and other administrative complications of dealing with Medigap supplemental insurers.

**II** Patients choosing "Medichoice" would have access to a wide range of plans similar to those offered by the Federal Employees Health Benefit Plan (FEHBP). Each person would receive:

- Advance notice of the government's contribution (to be actuarially determined) toward the cost of Medichoice plans;
- Information and rates on plans in the individual's area to assist "value comparison"; and
- A Medichoice election and enrollment form (available on attaining Medicare eligibility and on an annualized basis).

Patients would either pay the difference when the plan costs exceed the government contribution or keep the savings when the government contribution exceeds the plan costs.

**III** Each Medicare-eligible individual would also have the option, in lieu of comprehensive plans (such as traditional Medicare or Medichoice), to establish a "Medical Savings Account" coupled with a catastrophic policy. Our MSA/catastrophic plan would:

- Be funded by the government's annual contribution amount;
- Consist of a fund from which the beneficia-

ry would pay deductible medical expenses and a high deductible catastrophic medical expense insurance;

- Allow unspent balances to accumulate in the fund; and
- Provide for distribution from the MSA fund (exempt from federal and state income tax) for medical expenses, including health insurance premiums and long-term care expenses.

The MSA option would undoubtedly prove attractive to many beneficiaries because they could provide funds for purchase of items and services formerly not covered by Medicare, such as prescription drugs or extended long-term care. The AMA strongly supports Chairman Archer's MSA legislation, as detailed in our recent separate statement to the committee.

In the AMA proposal, we specifically take into account those in our society who are most dependent financially on the Medicare program. Those whose incomes are at or below the poverty level would be *exempt* from any Medicare cost-sharing. Those with incomes between the poverty level and 150% of that level would face some cost sharing, adjusted on a sliding scale based on income.

Medicare must be transformed into a defined contribution program to tighten the program's original open-ended entitlement that has contributed so significantly to Medicare's fiscal instability. To serve beneficiaries optimally under such budgetary constraints, however, the program *must* provide a wide variety of choices to allow for the full spectrum of needs and financial means within the beneficiary population.

The newly empowered Medicare beneficiary should not be restricted in choice of plans or providers. We must correct the current competitive disadvantage of physician-sponsored health plans. Physicians are positioned to ultimately balance the cost and quality equation better than any others in the marketplace, with the potential to save substantial amounts which today go to the administration and institutional investors of giant corporate plans. A simple program to help stimulate physician plans, much as was done for HMOs in the 1970s, is a necessary direction to pursue.

### Quality and Health Plan Standards

As Medicare becomes a part of a meaningful way for patients to make choices in the private marketplace, costly and complicated government regulations can be reduced and the private sector can exercise its self-regulatory expertise. We are proposing an unprecedented "Partnership for Health Care Value" organization that focuses private sector efforts to promote standards of



quality and rules of fair competition that protect the patient-physician relationship. The partnership will also coordinate and expand current fragmented efforts to find, report, and eliminate fraud and abuse. A dramatic, yet simple, way to materially decrease fraud is to share responsibility for its detection with organized medicine. According to the FBI, physicians are the least likely group to engage in fraud, yet the most useful in assisting in its prosecution.

The partnership would also serve to educate physicians, providers, and patients about reducing care of marginal value and increasing preventive care. It would build on current efforts in this arena, such as the soon-to-be-released booklet on health care advanced directives, jointly produced by the AMA, the American Bar Association, and the American Association of Retired Persons. The partnership would expand continuous quality improvement in medical care and quickly communicate clinical advances to every physician.

In addition, to protect our patients, the AMA urges that plans be guided by the following principles, which have enjoyed bipartisan support in the past Congress. In general, plans should:

- Disclose to patients plan information, rights and responsibilities;
- Provide for appropriate professional involvement in plan medical policy matters;
- Disclose utilization review plan policies and procedures;
- Provide reasonable opportunity for patient choice of plans and physicians; and
- Provide reasonable access to physicians and specialists.

### **Graduate Medical Education**

Additional Medicare savings can be achieved by making the funding of our graduate medical education (GME) system more rational. The marketplace in medical education needs a new set of rules. The necessary restructuring of GME financing must be sensitive, however, to the multiple obligations of teaching hospitals, which provide a high level of specialized care, as well as care to the uninsured and the underinsured, and to medical schools, which carry out both educational and research missions.

We propose that Medicare's contribution to GME be reduced over time and that the private sector play a stronger role in both work force planning and funding of GME. All the entities delivering health care today benefit directly or indirectly from the GME system, yet many contribute little to it. It will take time to develop and implement a fair all-payer system for GME. We recommend a gradual reduction in the number of

publicly funded residency positions and the transition to a GME funding system supported by all payers, public and private.

The AMA's proposal also calls for the establishment of a cooperative private-public sector physician workforce planning initiative to study physician workforce needs and make recommendations about the future funding of GME. The planning group's considerations would include issues such as suitable specialty mix, geographic distribution and appropriate training.

### **Additional Medicare Changes**

We are also calling for three additional changes: (1) including preventive services in the Medicare benefit when availability of such services can clearly be shown to reduce overall program costs; (2) raising Medicare's eligibility age over time so that it is consistent with that of Social Security; and (3) reducing by a modest amount the Medicare subsidy of high income beneficiaries.

### **Conclusion**

Americans can no longer postpone tackling fundamental reform of the Medicare program. Failure to do so is certain to prove even more costly for the millions of Americans who expect to be able to rely on this program in the future, as well as those working Americans who are called upon to help finance it. Continuation of past stop-gap measures, such as chopping away at rates paid to providers in hopes of getting more services for less money, will ultimately divorce the Medicare system and its beneficiaries from the mainstream of American medical care. Simplistic budget-cutting has not resulted in cost control over recent years; on the contrary, price controls have had the perverse effect of exacerbating Medicare's fiscal crisis and severely threatening the promised access of beneficiaries to medical care.

Americans who depend on the Medicare program for their medical and health care, as well as those who will rely on it in the future, should not have to worry about whether benefits promised them will be forthcoming. As the nation attempts to strike a balance between enormous technological possibilities and clear resource limits, it is imperative that patients make the choices with physicians as their trusted advisers. Our proposal for Medicare transformation attempts to achieve the new balance that is required. We look forward to working with the Congress on this vital effort.

We propose that Medicare's contribution to GME be reduced over time and that the private sector play a stronger role...





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### Announcing the 1995 Mark R. Johnson Competition "Excellence in Medical Writing"

A \$500 cash award will be presented to the medical student or resident at the University of Oklahoma College of Medicine (Oklahoma City or Tulsa campus) who, by December 31, 1995, submits the best scientific paper or opinion piece for publication in the JOURNAL.

Entries will be judged by the JOURNAL's Editorial Board at its annual meeting next March and the winner, if any, will be announced at the Annual Meeting of the OSMA House of Delegates in April 1996. All decisions of the Editorial Board will be final.

The student or resident submitting the paper need not be the *sole* author, but must be the *lead* author and must have done the majority of the writing. Entries in the competition should be clearly labeled as such when submitted.

Entries should be mailed to: Mark R. Johnson Competition, OSMA JOURNAL, 601 Northwest Expressway, Oklahoma City, OK 73118. For additional information, call (405) 843-9571 or 1-800-522-9452.

## OSMA Board of Trustees holds its midsummer meeting in Muskogee

The Board of Trustees of the Oklahoma State Medical Association held its midsummer meeting July 9, 1995, at the Bank IV building in Muskogee. This meeting and the next, to be held October 29 in Duncan, were booked in communities other than Oklahoma City at the suggestion of Dr. Chester Bynum, chairman of the board. In this way, the driving time required to attend such meetings will be spread more evenly among the attending trustees and visitors.

Board actions included the following:

- Dr. James Gerber, Okarche, was named to fill the incomplete term of Dr. David Selby, who resigned his post as Garfield County trustee when he was elected OSMA vice-president in April. The county nominated David Russell, MD, to serve out Dr. Gerber's term as alternate trustee.

- OSMA House Speaker Mary Anne McCaffree, MD, one of Oklahoma's delegates to the AMA, reported that in an unprecedented move, the AMA's Council on Ethical and Judicial Affairs (CEJA) held an open forum at its June meeting to take testimony on the following subjects: (1) Discounted fee schedules as a condition of referral to specialists by primary care providers in capitated systems; (2) The disclosure of professional status of medical students and residents to patients in teaching institutions; (3) The right of patients to participate in clinical research protocols; (4) Ethical guidelines for AMA members (all physicians) as expert witnesses; (5) The use of anencephalic neonates as organ

donors; (6) Gifts to physicians from industry; and (7) Self-treatment and the treatment of immediate family members. In the past, CEJA, the AMA's judiciary body, generally has not sought physician input on issues.

- Reports from the OFPR, OSMA Accreditation Committee, Council on Medical Services, and Council on Member Services were filed for information.

- Secretary-Treasurer Carol Imes, MD, reported that effective June 30, PROklahoma Care had repaid its start-up loan from OSMA and is now on its own financially. The bank note that backed the OSMA loan was repaid at the same time.

- Dr. Imes noted that the following resolutions regarding Physician Recovery Program loans had been amended and approved earlier in the day by the Executive Committee:

- (1) "Resolved, That for all existing and for any future loans issued in the Physician Recovery Program a promissory note shall be prepared in the amount of the original amount of the loan and that such promissory notes shall bear interest thereon at the rate of one percent (1%) per annum over a floating prime rate charged by major financial institutions; and be it further

- (2) "Resolved, That such promissory notes shall be executed on or before August 15, 1995, and that the Ex-

ecutive Director shall be responsible for obtaining signatures on such promissory notes."

Both resolutions were approved by the board.

- The board approved a motion that "the Defined Benefit Pension Plan be submitted to the Voluntary Compliance Resolution Program of the IRS and that the Defined Pension Plan be brought into compliance regarding the top-heavy issue and required contributions."

The issue will be sent back to the Pension Plan Committee for recommendations on how to proceed.

- The board approved an amended motion stating, "Dr. Carol Imes will write a policy that includes check writing and internal controls, as deemed necessary, which will then be recommended by the Finance Committee. The current check writing policy will be in effect until the new policy is approved at the next Board of Trustees meeting."

- Following a lengthy discussion of the "any willing provider" and "point-of-service" issue, the board approved a motion that OSMA do its own interim study and come to some conclusion and that the Council on State Legislation and Regulation report their conclusions at the next board meeting.

- Discussion of a proposed policy on OSMA member requests for OSMA records and documents resulted in the board's approving an amended motion. Amendment included dividing the original one-paragraph motion into two paragraphs that were voted on separately. Both were approved as follows:





## Board meeting (continued)

"It shall be the policy of the OSMA that all members have free and open access to all business information, records and documentation of the Board of Trustees and its committees except Executive Sessions for the purposes of discussing personnel and legal issues."

"It shall be the policy of the OSMA that all members shall have the right to submit a written request to the Executive Director for information, records and documentation, and after a reasonable time allowed for locating and copying any information, records and documentation requested, such documents shall be provided to such requesting member. Any costs for copying may be requested from the member requesting the information, records and documentation."

- The board approved the "expenditure of \$1 per member of OSMA to help fund the AMA/State Medical Society Litigation Center."

- Regarding a draft policy on corporate credit cards and expenses, amendments were approved for the first two

of three proposed sections, resulting in the following approved policy:

"(1) Corporate credit cards are to be used for OSMA business expenses only. Appropriate original receipts and the business purpose of expenditure according to IRS regulations are required with the statement. Each corporate card (Visa) should be issued in the individual's name and each person should receive his/her own bill. The statement shall be reviewed and forwarded for approval within three days of receipt."

"(2) Out of pocket expenses or charges made to personal credit cards that are reimbursable shall be submitted on OSMA vouchers with appropriate original receipts and explanations."

"(3) All gasoline credit cards issued to the Oklahoma State Medical Association should be cancelled. No auto expense should be billed directly to OSMA. Auto expenses will be covered in a new policy which is under development. Until the new policy is approved, the auto expenses should be filed for reimbursement on OSMA vouchers. An expense claim shall be filed within 45 days of the expenditure."

- The board approved an expense

voucher form to be used by OSMA officers and staff when reporting "actual expenses incurred in the performance of their official duties."

- Following a discussion of how best to implement the change-over in the employee automobile policy (from existing corporate-paid leases and insurance to leases and insurance paid by the individual), the board voted that contracts (leases) that had been entered into in good faith under the old policy prior to July 9, 1995, would be honored by the association, but that from that date forward the new policy would prevail. Any prepaid monies such as insurance would be reimbursed by the employees to the association.

- An amended budget for the Physicians Recovery Program was approved, as were employment contract forms for employees of the program.

- The board voted not to adopt a proposed Confidentiality Statement and also to table a proposed Conflict of Interest Statement "as presented and produce another statement to be examined later by all concerned."

- The board approved an expenditure of \$8,500 to complete the OSMA office renovation.

## CAPSULES

■ **The new National Coordinating Council for Medication Error Reporting and Prevention** held its first meeting this summer. The council, supported by fourteen health care organizations including the American Medical Association, will promote the reporting, understanding, and prevention of medication errors. It will focus on ways to protect patient safety through the coordinated efforts of associations and agencies. The stated goals of the council are to (1) stimulate the development and use of reporting and evaluation systems by individual health care organizations; (2) stimulate reporting to a national system for review, analysis, and development of recommendations to reduce and prevent medication errors; (3) examine and evaluate the causes of medication errors; (4) increase awareness of medication errors and methods of prevention throughout the health care system, which includes health care organizations/facilities, delivery systems, practitioners, manufacturers, regulators, and consumers; and (5) recommend strategies relative to system modifications, practice standards and guidelines, and changes in packaging, labeling, and product identity.

In addition to the AMA, the founding organizations are the

American Association of Retired Persons, American Hospital Association, American Nurses Association, American Pharmaceutical Association, Federation of State Medical Boards of the U.S., U.S. Food and Drug Administration, Generic Pharmaceutical Industry Association, Joint Commission on the Accreditation of Health Care Organizations, National Council of State Boards of Nursing, National Association of Boards of Pharmacy, Pharmaceutical Research and Manufacturers of America, and the United States Pharmacopoeia (USP).

### ■ **Mental Illness Awareness Week is October 1-7, 1995.**

This year it will feature free clinical depression screenings across the country on Thursday, October 5, which has been designated National Depression Screening Day. Screening sites are planned for over 2,000 facilities including college student health centers, churches, libraries, shopping malls, hospitals, and workplace settings. The American Psychiatric Association offers a free pamphlet on depression to the public. People may write to the American Psychiatric Association, DPA/Dept. NB, 1400 K Street, NW, Washington, DC 20005, to receive a free copy. Calls for information about the screening day should be directed to Barbara Kopans, (617) 239-0071. The public may call (800) 262-4444 to find out about local screening sites.



## HEALTH DEPARTMENT

### **Coming soon: certified workplace medical plans**

In the coming months, physicians who treat work-related injuries are likely to encounter a new type of health delivery system—the certified workplace medical plan. Applications for certification of these plans may be approved soon under procedures adopted by the Commissioner of Health. Plans should be operating in Oklahoma by January 1, 1996.

A workplace medical plan is an organization of health care providers that agrees to provide all necessary medical and health care treatment for an employer's injured workers. A plan contracts either with the employer's workers' compensation insurance carrier, or with a group self-insurance association plan, or directly with a self-insured employer. An injured worker who is covered under a plan contract must seek any non-emergency treatment through the plan, or payment for services may be denied.

The certification program for these plans was created in November 1994 by the Oklahoma Legislature in amendments to the Workers' Compensation Act. Because a plan may limit a worker's access to health services, the legislature directed the Commissioner of Health to assure that each plan has at least these components: adequate methods of peer review, utilization review, and dispute resolution; aggressive case management; and workplace health and safety consultative services. A plan also must make provisions to approve payments for medically necessary emergency treatment.

Each worker covered under a plan contract will make an annual selection. The worker may choose the plan or may designate his or her family's personal physician to provide treatment for injuries. If the personal physician agrees to comply with the plan's contract, then the worker may use that physician for treatment of work-related injuries.

Differences exist between a plan and a typical managed care program such as an HMO. A plan is prohibited from using capitation, or reimbursement based on the number of covered persons. Health providers under a plan must be paid on a fee-for-service basis. Another distinction is in the plan's relationship with payors. Although managed care programs typically combine financing and health care delivery in one corporation, the plan and the payor must be legally distinct entities. A plan must be separated by contract from the self-insured employer, the insurance carrier, or the group association.

One principle underlying the commissioner's rules is that practicing Oklahoma physicians will control the delivery of health care services in a plan. Each plan's medical director must hold an Oklahoma license, and the medical director must provide input into the plan's quality assurance system. The credentialing and utilization review programs must be overseen and approved by practicing health professionals. Also, the plan's utilization review criteria must be developed with the involvement of health professionals.

The Oklahoma State Department of Health began receiving certification requests from prospective plans in June 1995. Department reviews are projected to take about 30 days, and several plans should be ready to offer services in early 1996. For more information, contact the Certificate of Need Division, Oklahoma State Department of Health, at (405) 271-6868.



## COMMENTARY

### ***Is the practice of medicine getting harder? Or am I just getting older?***

It's 4:30 PM, Friday. The office help is leaving, and my two partners have signed out for the weekend. I now "have it all" in this town of 3000+ with its struggling 20+-bed hospital. "All" means all the inpatients of ours, or any others with acute problems in hospital emergencies, all emergency room services, the county sheriff's department for medical examiner cases, sanity hearings, and any jail-related injuries/illnesses. "All" also means the two nursing homes in the area, all local home health support, and patients and pharmacies with questions are my responsibility.

I am remembering the past week, when an 80-year-old patient of mine developed acute abdominal pain. Fortunately, our 200/week ultrasound technician was present in the hospital, and an abdominal sonogram revealed an abdominal aortic aneurysm. The study, carried 30 miles for a radiologist's interpretation, confirmed the presence of the aneurysm; but, of course, a CT scan was recommended. I called the surgical group I have referred cases to for 20+ years, and the surgeon agreed to accept the case. However, the hospital "Transfer Center" said there were no beds—but agreed to have the patient sent to their emergency room. She was admitted, after her CT scan. I guess they "found" a bed.

I am remembering when a phone call to a former classmate, or colleague, was all I needed to obtain emergency services, or the expertise from referral for my patients. Now, the "Golden First Hour" of trauma is spent dealing with the COBRA form. The referrals have to be those on the "provider list" for the patient's health care plan—or woe, if none.

I am remembering when my patients would wait until office hours to be seen for non-emergencies. Some of my elderly patients still do, and they even try not to call me at home in the early hours—so I can rest. But my "rest" is not sacred to today's younger patient group. Their

(continued)

## LETTERS

### Authors reply to Pitt critics

In March 1995, the JOURNAL published a manuscript entitled "The Use of Interferon for the Treatment of Viral Hepatitis in Pediatric Liver Transplant Recipients" by Drs. Nour, Tzakis, and Van Thiel. In May, the JOURNAL published a letter from Dr. H.J. Merhav, Oklahoma City, which criticized the article, as well as a reply from authors Nour and Van Thiel. Last month (Aug.), the JOURNAL published another letter critical of the manuscript, this one from Drs. Reyes and Rakela at the University of Pittsburgh. Following is the response of authors Nour and Van Thiel.

To the Editor: We have read the letter written to you about our report entitled "The Use of Interferon for the Treatment of Viral Hepatitis in Pediatric Liver Transplant Recipients" by Drs. Reyes and Rakela. We have the following responses:

(1) The paper had, in fact, been accepted for publication in the *Journal of Pediatric Gastroenterology and Nutrition*. We withdrew the manuscript because of a conflict with Dr. Reyes as to who should be the first author. Dr. Nour personally cared for the patients reported. Dr. Tzakis was the chief of the service and Dr. Reyes did little or nothing in the preparation of the manuscript. However, because he became the acting chief of service with the relocation of Drs. Tzakis and Nour, he demanded to be the first author. We could not do this.

### Commentary (continued)

rest seems important, however. Without it, they become "tired."

I am remembering when nurses accompanied me on rounds. Now, nurses call to tell me my admission wasn't justified. Or, the home health nurse calls to use my knowledge (liability) to proceed with her/his treatment plan. Things should be getting easier. But they seem to be getting harder.

Maybe I'm just getting older.

—Michael L. Jordan, MD  
Pawhuska

As a result, we withdrew the paper and submitted it to the *Journal of the Oklahoma State Medical Association* after deleting his name from the list of authors as per his request. The withdrawal was not at all requested by Dr. Reyes but by Dr. Van Thiel who was the communicating author for the manuscript.

The manuscript as published represents the data available to the authors at the time the paper was written, May 1994. It was subsequently submitted to the *Journal of the Oklahoma State Medical Association* in September 1994.

As for the claim that the manuscript is a report from the University of Pittsburgh, one only has to examine the title page which states that the authors are not at the University of Pittsburgh but rather at another center, and that it represents a report of the

authors' experience while they were in Pittsburgh. In fact, the manuscript was submitted from Baptist Medical Center of Oklahoma, where reprint requests are to be directed. No approval from the University of Pittsburgh is required for us to report on our own experience.

We look forward to a paper to be submitted by Drs. Reyes and Rakela in the future. A report with a longer period of follow-up and different endpoints (HBV-DNA and HCV-RNA) as opposed to serum ALT levels) is entirely appropriate and the physicians in Pittsburgh are encouraged to do it.

We should point out to the editor and readership of the JOURNAL that our version of the manuscript was presented at the following national and international meetings prior to its publication.

(1) North American Society for Pediatric Gastroenterology and Nutrition, October 30-31, 1992, Chicago, Illinois  
(2) First International Congress on Pediatric Transplantation, September 1, 1993, Minneapolis, Minnesota

At both meetings Dr. Reyes accepted authorship and voiced no difficulties with the results of the presentations which mirror the published report in the JOURNAL.

As for the specifics of Dr. Reyes' letter,

he agrees that cases 1, 5, 9, and 12 were full responses. Case 3 currently resides in Oklahoma and is being followed at Baptist Medical Center. All of his hepatitis serologies are currently negative. Patient 6 had a biochemical response (the endpoint used in our study performed in 1991-1992) prior to a time when HBV-DNA results were available to us. It is because of a change in endpoints and additional data in terms of viral levels as well as follow-up that we look forward to reading the promised manuscript of Drs. Reyes and Rakela.

We clearly state that Patient 2 died of a lymphoma (PTLD). Moreover, we report 2 deaths in Table 2 of our manuscript.

Patient 6 seroconverted from eAg positive to eAb positive in response to interferon. Whether she remained HBV-DNA positive or not is not known to the authors as the test was not available to us at the time of the study or its writing and subsequent publication. Any new data Drs. Reyes and Rakela may have is eagerly anticipated.

The fact that complications occurred in cases not included in the manuscript is not at all relevant to our report. One of these two (2) cases had a heart and liver transplant and as noted in our earlier letter in response Dr. Merhav's letter (item 4 of our letter dated May 1995), this patient did not meet entry criteria for our study. The other "excluded" patient was seen at Pittsburgh a full year after the study had been written and therefore could not have been included. We trust that Drs. Reyes and Rakela have accumulated other cases as well since our report and again we look forward to the information such additional cases may add to the current body of knowledge.

Patient number 10 did die during an attempt at retransplantation for chronic rejection. The letter of Reyes and our report both describe Case 2 as dying of PTLD.

Drs. Reyes and Rakela contradict themselves in their letter. See paragraph 2 and paragraph 3 about the number of

"No approval from the University of Pittsburgh is required for us to report on our own experience."



## Letters (continued)

cases of PTLD and their outcome. Hopefully, they can resolve such inconsistencies in their promised report.

Finally, it is curious that Dr. Rakela is involved at all in this desperate as he did not join the faculty at the University of Pittsburgh until 1994, well after the experience reported by us and well before the original submission of the manuscript. Moreover, he was never an author and we suspect that as an internist rather than a pediatrician, he may never have seen any of the cases reported.

We trust these responses to the letter of Drs. Reyes and Rakela will set the record straight for the readership.

—Bakr Nour, MD

David H. Van Thiel, MD  
Oklahoma City

## Drooby writes to Capitol Hill contingent

*Oklahoma City internist S.A. Dean Drooby, MD, recently sent the following letter to every Oklahoma Senator and Congressman in Washington:*

Dear (Senator /Congressman \_\_\_\_\_),

As you know, the House and Senate are now in agreement to cut \$270 billion from the Medicare program over the next 7 years and another \$180 billion from Medicaid. I understand that this is a cut in the rate of spending and that Medicare will go bust at the current rate of spending in the year 2002. I also am in favor of balancing the budget, as I do want to leave a healthier country to my children, as I'm sure you do.

I urge you, if you are sincere in achieving this goal, to put defense spending and the Social Security program on the table. It is not right that we continue to spend such astronomically high levels, namely \$270 billion a year on defense and that we shrink Medicare and Medicaid over the next 7 years by \$450 billion. We do not need to be ready to fight 2 wars at the same time, as the Pentagon claims. Defense spending has become an obscene jobs program. The Pentagon proposes to spend \$300 billion on new weapons systems in the next 15 years. Only \$15 billion, or 5% of that amount, owed largely to 4 weapons systems, would provide a significant advantage to the U.S. Armed Forces in any of the proposed contingencies in the Bottoms Up Review by the Pentagon. The time has come to take a very hard look at defense and to put the rhetoric aside. A country is judged by the way it takes care of its elderly, its poor, its disabled and its young, not by the way it takes care of its defense industries.

It is not right for us to have domestic abuse and physical abuse inside the United States Armed Forces because of low morale and that we continue to buy high dollar, unnecessary weapons systems. It is not right that U.S. corporations that sell defense systems do not pay taxes for year after year. It is not right to drain this country's limited resources and support unnecessary, expensive weapon systems in the face of

(continued)

## IN MEMORIAM

### 1994

Tom Lamar Johnson, MD .....	March 5
Orville Main Rippy, MD .....	March 11
Minor Elliott Gordon, MD .....	March 14
George Loren Norris, MD .....	March 27
Max A. Glazc, MD .....	April 29
Winfred Aaron Showman, MD .....	May 14
Mark Daniel Holcomb, MD .....	June 1
Carter William Mathews, MD .....	June 3
Frank Wilson Clark, MD .....	June 6
Harold Ray Sanders, MD .....	June 15
Robert Bruce Howard, MD .....	June 16
Richard Warren Loy, MD .....	July 7
John Hobson Veazey, MD .....	July 11
Wesley A. Whittlesey, MD .....	July 12
Lawrence Sevier McAlister, MD .....	July 19
Jon Meyer Chenette, MD .....	August 4
Beryl Drew Henwood, MD .....	August 14
Jess Duval Herrmann, MD .....	August 16
John Xavier Blender, MD .....	October 5
Laurence Oliver Short, MD .....	October 29
John Patrick Skelly, MD .....	November 6
Jose J. Guijarro, MD .....	November 11
Haven Winslow Mankin, MD .....	November 14
Dalton Blue McInnis, MD .....	November 26

### 1995

Robert M. Wienecke, MD .....	January 3
Mason Russell Lyons, MD .....	January 6
Wallace Byrd, MD .....	January 25
Herbert Victor Lewis Sapper, MD .....	January 26
Addison Bowling Smith, MD .....	January 31
Clifford Jennings Blair, MD .....	February 10
John Richard Danstrom, MD .....	March 5
Elmer William Taylor, MD .....	March 5
Othal Blair Cunnyngnam, MD .....	March 14
George S. Bozalis, MD .....	March 21
William Gerald Rogers, MD .....	March 21
Charles Wesley Letcher, MD .....	March 26
John Frederick Bolene, MD .....	March 27
John B. Miles, MD .....	March 31
Elvus Jene Allgood, MD .....	May 6
Wiley T. McCollum, MD .....	May 13
Gerald Leon Honick, MD .....	May 24
William G. Husband, Jr., MD .....	May 25
Henry Washington Harris, MD .....	June 2
Joan Kazanjian Leavitt, MD .....	June 13
Lucien Michael Pascucci, MD .....	July 2
Glen M. Floyd, MD .....	July 8
Marvin Homer Hird, MD .....	July 18
Yale Eugene Parkhurst, MD .....	July 27



## Letters (continued)

economic hardship in this country and uncertainty about the future of health care for the elderly and the poor.

Physicians have been accused of wanting to protect their own incomes. I am more than happy not to receive a \$500 tax cut, now or in the year 2002, after the Congressional Budget Office certifies that the current deficit reduction plan will work. I would rather achieve a balanced budget in 7 years by appropriate reductions in levels of military spending and by means testing of the elderly for Social Security and Medicare purposes. It would be best to delay the age of eligibility for these 2 programs until the age of 67, after the year 2002, if necessary, to avoid political slaughter at the hands of the AARP. If reimbursement for providers of health care is reduced starting next year, then access for Medicare and Medicaid patients will suffer, without the shadow of a doubt. Allegations by insurance companies that managed care can deliver the same level of health care, access and quality, when applied to Medicare and Medicaid recipients, do not hold water. They are

largely untested. I have seen patients who have come from California and who have seen managed care HMO-Medicare systems that work. These patients were not happy and were glad to be back in the traditional fee-for-service environment.

I therefore urge you to look very carefully at the details of these cuts in the rates of spending for Medicare and Medicaid over the next 7 years and to be very selective in your recommendations to HCFA and HHS as to how these cuts are to be made. Otherwise, the Democratic party's claims that the Republican party is going to balance the budget on the backs of the elderly and the poor will take hold amongst the electorate, notwithstanding the fact that Medicare will go bankrupt at the current rates of spending. I thank you for your attention.

—S.A. Dean Drooby, MD  
Oklahoma City

## CLASSIFIEDS

Classified ads are 50 cents a word, with a minimum of \$25 per ad. A word is one or more characters bounded by spaces. Box numbers will be assigned upon request and will add 6 words to the total. Payment must accompany all submissions. Orders will NOT be accepted via telephone or fax. Mail ad with payment to OSMA JOURNAL, 601 Northwest Expressway, Oklahoma City, OK 73118. Deadline is the first of the month preceding the month of publication.

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## DEATHS

### Glen M. Floyd, MD 1919 - 1995

Glen M. Floyd, MD, a native of Sedan, Kan., and a Bartlesville ophthalmologist for 30 years, died July 8, 1995. Dr. Floyd was a 1944 graduate of Kansas University Medical School. He served with the U.S. Navy in China during World War II and with the U.S. Marine Corps in Korea before establishing his Bartlesville practice in 1958. Prior to that he lived in Winfield, Kans. His work in interocular photography earned him the distinction of being the youngest man ever named to *Who's Who in Modern Medicine*. Dr. Floyd was a Life Member of the OSMA.

### Yale Eugene Parkhurst, MD 1924 - 1995

Tulsa physician Yale E. Parkhurst, MD, died July 27, 1995. A specialist in psychiatry and internal medicine, Dr. Parkhurst earned his medical degree at the University of Oklahoma School of Medicine in 1948. His practice took him from Fayetteville, Ark., to Geary, Okla., and then Okemah, Norman, and Tulsa. He was the founding medical director of Second Chance, an adolescent chemical dependency unit in Weleetka.

### Laurence Oliver Short, MD 1919 - 1995

OSMA Life Member Laurence O. Short, MD, died October 29, 1994. A 1951 graduate of the University of Oklahoma Medical School, Dr. Short served an internship in Fort Worth, Tex. He was a general practitioner and during his medical career he worked in Frederick, Granite, Cyril, and Anadarko. Dr. Short was born in Fallis, Okla.

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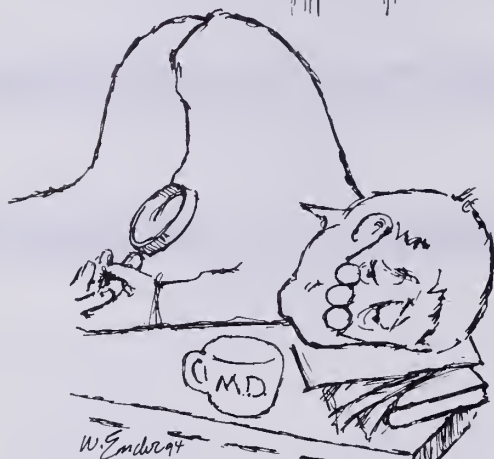
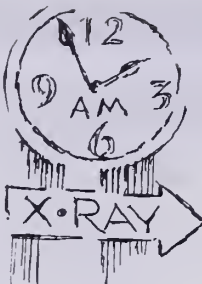
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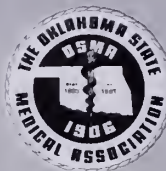
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■ **Drs. J. Andy Sullivan and David Tuggle of the University of Oklahoma Health Sciences Center in Oklahoma City,** were the recipients of a new international medical award last month. The Weigelt-Wallace Award was established by a Texas philanthropist to recognize "extraordinary dedication and sacrifice on behalf of medicine and mankind." It is the only international award that honors physicians for exceptional patient care. In April, working deep inside the dangerously unstable rubble of the bombed out Alfred P. Murrah Federal Building, the two doctors were able to free Daina Bradley. The rescue required the amputation of Ms. Bradley's leg under incredibly difficult circumstances and has become one of the most widely known stories about the bombing incident. In the months since then, Ms. Bradley has made an excellent recovery and is walking well with a prosthesis.

■ **For the benefit of those physicians who use their computers for communication,** the OSMA now has an e-mail address: [osma@ionet.net](mailto:osma@ionet.net).

■ **September is national Women In Medicine Month,** a project of the American Medical Association to recognize and celebrate the growing number and influence of women physicians in the profession and the communities. This year's theme is *Women Physicians: Leading Change*. It reflects the increasing number of women physicians who have assumed leadership positions in government, research, academia, and organized medicine. In these venues and in their practices, women physicians are bringing new perspectives to physician/patient relationships and health policy research and development. They are also leading change through their involvement in important public health initiatives and in helping the profession to address the need for professional/family balance within the medical education and training environment. Women now comprise close to 20% of all U.S. physicians and more than 40% of all medical students.

■ **Arthur H. Schipul, Jr., MD, assistant professor, University of Oklahoma Department of Obstetrics and Gynecology,** was recently honored by the Oklahoma Academy of Physician Assistants (OAPA) for his work as OAPA preceptor since 1980 at various hospitals (Yale, Emory, University of Washington, Texas, and the U.S. Army Medical Field Service School (now Academy of Health Sciences), as well as at the University of Oklahoma Health Sciences Center. For the past three years he has also served as medical director of the OU-HSC physician assistant review course.

■ **Two recent graduates and one student at the University of Oklahoma College of Medicine** are among only four people nationwide elected to office in the American Academy of Family Physicians (AAFP). Fourth-year student T. Lee Mills and resident physician Pamela E. DeLashaw, MD, are affiliated with OU's Tulsa campus and Kyle Waugh, MD, also a resident, is with OU's Family Practice Program in Enid. All

three were formally elected to office during the academy's annual National congress, held July 27-30 in Kansas City. OU President David L. Boren noted, "It is no wonder that *U.S. News and World Report* magazine has ranked our College of Medicine in the top 20 in the country, because our students are among the brightest and most accomplished in the nation." Executive Dean Douglas Voth added, "The success of our graduates and students reflects our growing emphasis on the field of family medicine and the nationally increasing prominence of our entire College of Medicine."

■ **John R. Alexander, MD, Tulsa, has resigned his position** as Oklahoma delegate to the American Medical Association. Dr. Sara R. DePersio, Oklahoma City, has been appointed by President Larry L. Long, MD, to complete Dr. Alexander's term. Dr. DePersio had the longest tenure among the alternate delegates. The term expires in April 1996. Dr. Long appointed Gary L. Paddock, MD, Ada, to fill Dr. DePersio's vacated alternate post, which expires in April 1997.

■ **Mayo D. Gilson, MD, Oklahoma City ob-gyn, is the new medical director for Aetna Medicare.** He succeeds Ted Clemens, Jr., MD. A graduate of the University of Oklahoma College of Medicine, Dr. Gilson has been in private practice for 20 years.

■ **Donald L. Cooper, MD, Stillwater general practitioner,** has been named one of the top ten health and fitness advocates in the United States. Winners of the national award are selected by the Jaycees.

■ **Edward N. Brandt, Jr., MD, Oklahoma City, has been appointed to a three-year term on the Board of Directors of the American Academy of Neurology's Education and Research Foundation.** Dr. Brandt is professor and director for the Center for Health Policy at the University of Oklahoma Health Sciences Center.

■ **The new slate of officers for the Oklahoma Academy of Family Physicians (OAFP) is as follows:** Patrick A. Bell, MD, Tishomingo, president; Brent W. Laughlin, MD, Tulsa, president-elect; W. Michael Woods, MD, Ramona, vice-president; Richard L. Boothe II, MD, Oklahoma City, secretary/treasurer; R. Dee Legako, MD, Edmond, AAFP delegate; and Joann Carpenter, MD, Ada, AAFP alternate delegate.

■ **The JOURNAL encourages readers to submit items of interest about OSMA members and their professional or community activities and awards.** Please direct such information to the Managing Editor, OSMA JOURNAL, 601 Northwest Expressway, Oklahoma City, OK 73118, or fax (405) 842-1834. Also, part of the JOURNAL's mission is to serve as an open forum for the discussion of issues vital to the physicians of Oklahoma. Readers are encouraged to express their personal opinions in the LETTERS column. □

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LEADERS IN MEDICINE

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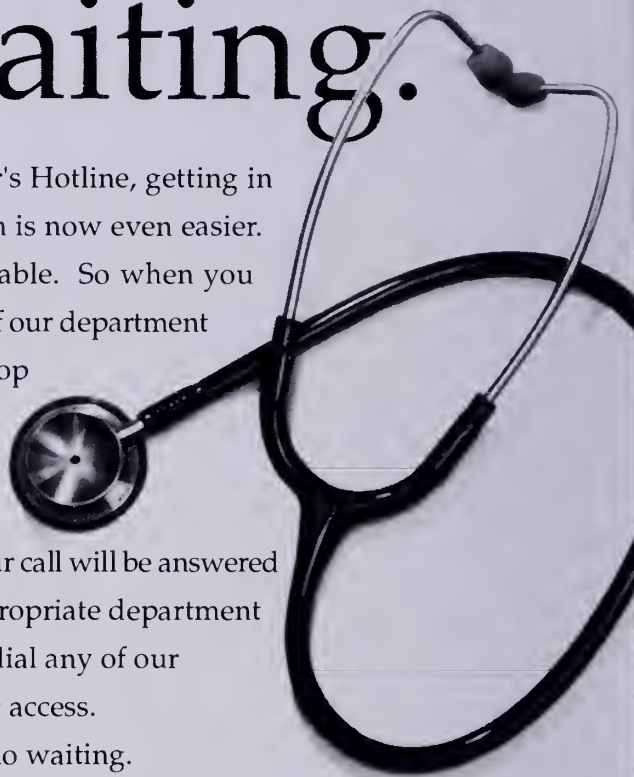
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# JOURNAL

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## ABOUT THE COVER

Ed L. Calhoon, MD, of Beaver, is the center of attention this month as the JOURNAL proudly presents its 29th Leaders in Medicine biography. Story begins on page 431.

Photograph by Robert H. Taylor,  
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## How Many Ryan Lukes?

Oklahoma TV viewers and newspaper readers know Ryan Luke as a little two-year-old boy who was shaken to death while in a body cast. The tragic case caught media attention as the fatal injuries are alleged to have occurred while the child was being cared for by the same caretakers thought to have inflicted the injuries necessitating the body cast. Between the non-fatal and the fatal injuries, Ryan's case was subjected to the Oklahoma legal process as an instance of child abuse. The case of Ryan Luke has become notorious, and if little Ryan received the full protection of Oklahoma child abuse law, we must question the operation of the law.

The Oklahoma Department of Human Services reports an average of 24 deaths per year due to child abuse and neglect, and the Oklahoma Chief Medical Examiner reports a yearly average of 10 deaths from child abuse homicides. How many of these deaths are heralded by non-lethal injuries known to authorities, as in Ryan Luke's case?

The numerical answer to this pointed question is buried in DHS files and legal records, but is unavailable for public discussion because of "confidentiality."

The culpability of the medical profession in this sad scheme of things is not great. Physician reluctance to examine and testify in child abuse cases is diminishing and is now rarely a significant factor. The appreciation of surgeons and orthopedists of the stigma of child abuse as presented to their specialties is slowly but surely growing, and we can soon hope for a time when Ryan Luke's tragedy will not be

repeated. Since the 1990 enactment of the Oklahoma Child Abuse Examiner law, approximately 150 physicians have been trained in the forensic examination of abused children by Oklahoma's Chief Child Abuse Examiner Dr. Robert Block. Generally speaking, high quality medical evidence from this corps of examiners is now widely available and often prevents child abuse fiascos such as the Ryan Luke death.

The tragic story of Ryan Luke is a signal that Oklahoma needs a more effective way of evaluating child abuse perpetrators. The evaluation of perpetrator psychopathology appears to have been grossly inadequate in this case or, if it was correct, the legal system did not hear it, and the deficiency cost little Ryan his life. Our legal system seems to make it difficult for the best interests of the abused child to prevail.

We must pause to wonder: how many of Oklahoma's child homicides could be prevented by an accurate evaluation of non-fatal child abuse injuries? How can Oklahoma accurately evaluate child abusers so as to prevent abuse—and homicide—in the future? How can Oklahoma's legal system accurately place child custody with nurturing parents?

How many Ryan Lukes must Oklahoma have before developing effective child abuse prevention?

The tragic story of Ryan Luke is a signal that Oklahoma needs a more effective way of evaluating child abuse perpetrators.

*Ray V. McIntyre, M.D.*

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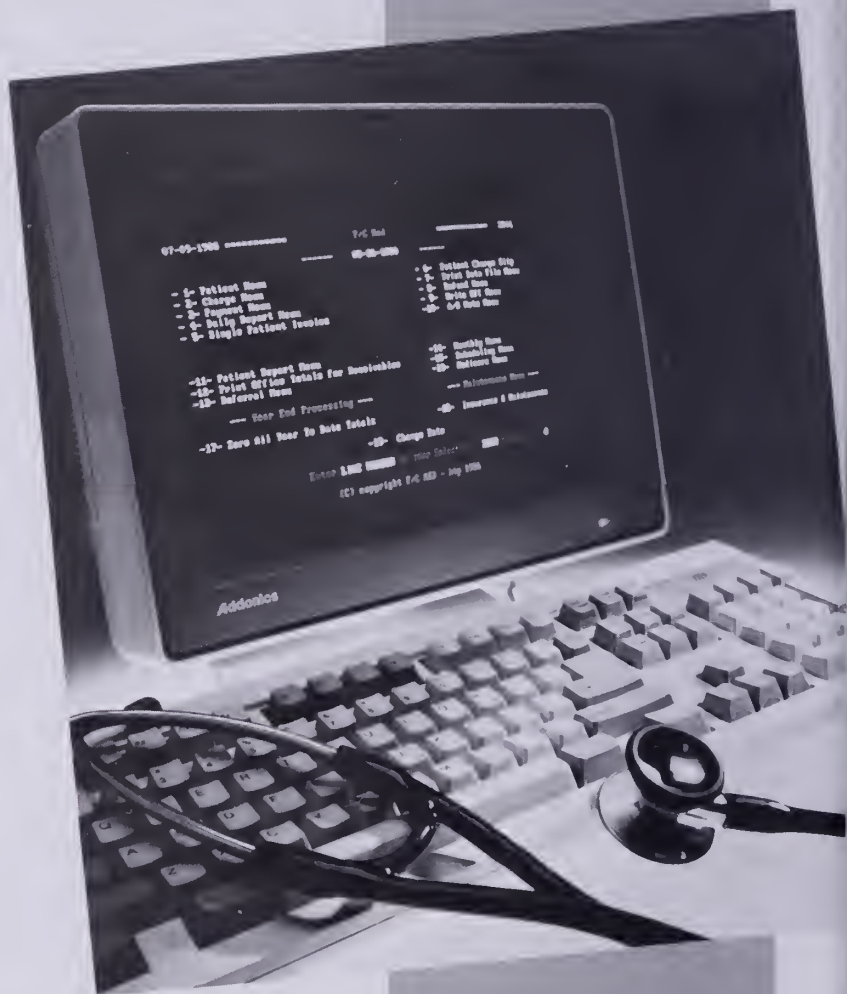
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## The Art of Medicine

I was looking through some old papers recently and I came across a lecture given by George A. LaMotte, M.D., Professor of Medicine, University of Oklahoma, School of Medicine. This lecture was given on October 17, 1941 to a group of students, interns and residents. It was nine pages of type-written thoughts and reflections by Dr. LaMotte on a wide range of topics with regard to the application of clinical medicine, prescriptions, medications and general considerations for success in life itself.



The following are a few excerpts from the text of Dr. LaMotte's address. I found them to be timely in this day and time and would like to share them with you on this page.

- A doctor's usefulness is his ability to preserve and renew, which is almost as noble as to create.

- If your training has caused you to possess sufficient faith, hope and charity, your services will be acceptable in our present changing and outworn social status.

- He quotes Voltaire who said, "Shut your mouth and open your eyes and you will need nothing to make you wise."

- Experience and humility teach modesty and fear.

- In short, silence is the college yell of the school of experience.

- Practice honesty and loyalty and expect your reward only as your services warrant it.

- Learn to do right for no other reason than that it is right.

- Keep an open mind to new conditions since life means a continuous adjustment to new conditions.

- Try and understand individuals and situations rather than to judge them and do not be too cocksure about prognosticating.

- Galen taught, "He cures most successfully in whom the people have the most confidence."

- Be kind and optimistic but do your work thoroughly without shirking and complaining.

- Act as if you are located for life.

- Eventually, when you get through your residency and have to locate, locate where you want to live.

- Endeavor to closely associate yourself with some older, successful physician in order to curtail your overhead expenses at first and secure referred cases.

- Become a part of your community and accept responsibility with a smile.

- Cultivate the habit of reading two hours each day.

- Cooperate with health authorities and stand in good grace with your county and state medical societies.

- Learn to live within your means and try to stay out of debt and save something for insurance and good investments.

- Learn to think before you act.

- Conserve your principal and avoid all get-rich-quick schemes.

- It so happens that of all the gullible people, school teachers are first and young doctors come next.

- In closing Dr. LaMotte quoted Cicero who said, "It is not enough that wisdom be merely set before us. It must be made use of." It avails little to know what ought to be done if you don't know how it is to be done. Dr. LaMotte goes on, "I am telling you that your ultimate satisfaction and subsequent pleasure will depend upon your loyalty, truthfulness and intrinsic honesty."

- In conclusion, Dr. LaMotte said, "So live that when your summons comes to join that innumerable caravan, you should not go like a quarry slave scourged to his dungeon cell, but sustained and soothed by an unfaltering trust. Approach thy grave like one who lies down in pleasant dreams and draws the drapery of his couch about him."

Some 54 years later, we are grateful to Dr. George A. LaMotte for words that ring true even today.

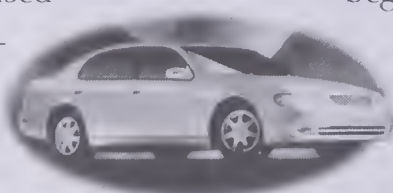
*Larry Long*

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## Marketing One, Two, Three

Philip J. Maguire, MD

**M**ost everyone would agree that marketing is now an accepted part of medicine. But not thirty years ago when I was preparing to open my practice. Nonetheless, even then I received a few bits of marketing advice from one of the older gynecologists, Dr. Gerald Rogers, a gentleman I truly revered; he taught me the intricacies of surgery and a lot about the art of medicine. We became good fishing buddies, and many of our discussions occurred on gorgeous, misty mornings while casting for largemouth bass. I believe his simple marketing strategies are apt today.

**1** Doctor Rogers told me to leave my home number in the telephone book! Now that sounds pretty simple, yet it was clearly the best marketing tool I ever used. The phone rang at some of the most inopportune times, and my family often dreaded its ring, but patients loved it. Over the years many, many patients commented on the fact that they could telephone me directly (not that I always wanted to talk to them). They also enjoyed describing their difficulties in reaching other physicians; going through various exchanges, beepers, and occasionally discussing urgent medical problems with sometimes sullen operators.

Physicians know that there are few real emergencies, but to someone who thinks they have an emergency, waiting for our call can

seem an interminable experience. Indeed, I did get a few weird calls. Saturday night calls from people I had last seen ten years ago, now seeking medical advice for a visiting cousin may have been among the worst. Drug addicts were never a problem because I didn't prescribe narcotics over the phone anyway and they were always easy to unmask. Actually, carpet cleaners and siding salesmen were more troublesome than patients. But I quickly learned the art of (usually) politely terminating a conversation.

**2** A second suggestion Dr. Rogers gave me was that I should touch each patient—make physical contact with them. That may sound a bit simple too, but he explained why it was important. As he portrayed it, many times a physical examination really isn't necessary, and we hurry (scurry?) into the examining room and after a few questions determine the problem, prescribe the treatment, and leave the room. He advised me to never leave an examining room without touching the patient.

According to him, a much stronger communication would be made by simply touching a patient's shoulder or briefly examining their palms or just holding their hand for a few seconds. Besides the patient couldn't then tell his or her friends, "He just wrote a prescription. He didn't even lay a hand on me." In Dr. Rogers' judgment, modest body contact would demonstrate a truer feeling for the person.

Direct correspondence to Philip J. Maguire, MD, 1124 N.W. 50th Street, Oklahoma City, OK 73118.



**3** Lastly, I was advised to give the patient a moment of my undivided attention. It takes about 60 seconds or less—my old teacher called it a “60-second hour.” As he phrased it, “we rush into the room, take a quick history, dictate their instructions, prescribe something or other, and bail out.” His recommendation: simply stop everything, ask a personal question about the day’s news or about their recent activities. Sit back, put up your pen, lay the chart down, make eye contact, and give the clear impression that your time is theirs.

It sometimes required a little skill at extracting oneself from the room when patients got overly prolix, but that was never too difficult. The patients left with the belief that I was personally interested in them, not just in their medical problems. It only took a

minute—60 seconds devoted exclusively to them.

Maybe these things are no longer important in today’s climate of third-party payers and managed care systems, but we are physicians, not contractors—well, at least physicians first and contractors second. I can assure you the news will spread quickly through the community that there is a physician one can actually call on the telephone (not through the nurse or by way of the exchange) and that he will actually speak to you—as an adult!

Dr. W. Gerald Rogers died March 21, 1995—*Requiescat in pace.*

†

#### **The Author**

Philip J. Maguire, MD, is an obstetrician-gynecologist in Oklahoma City.

## Why the Interest in Women's Health?

Edward N. Brandt, Jr., M.D., Ph.D.

**W**hy should we be interested in women's health? First, with the exception of diseases associated with the reproductive system and a few others such as osteoporosis, little, if any, research has focused on women with other diseases such as heart disease, carcinoma of the lung, or stroke. Second, drug evaluations usually have been performed exclusively on male subjects because of the fear of harming a fetus. Thalidomide has been often cited as a reason.

When and how did this interest in women's health begin? While Assistant Secretary for Health, I learned that official records contained fairly extensive mortality data on women, but very little morbidity data. The most recent federal report on women's health, at that time, dealt primarily with the reproductive system. Particularly striking was the lack of attention to the changing status of women such as the increased number in the work force doing different jobs, more single mothers, and growing numbers of older women.

In response to the lack of attention, I formed a Task Force on Women's Health which held public hearings and took other steps to get as much information from as many people and groups as possible. In 1985 the task force issued a two-volume report that contained 15 major recommendations, many of which have been implemented.

The next major focus on women's health by the federal government was a report by the Gen-

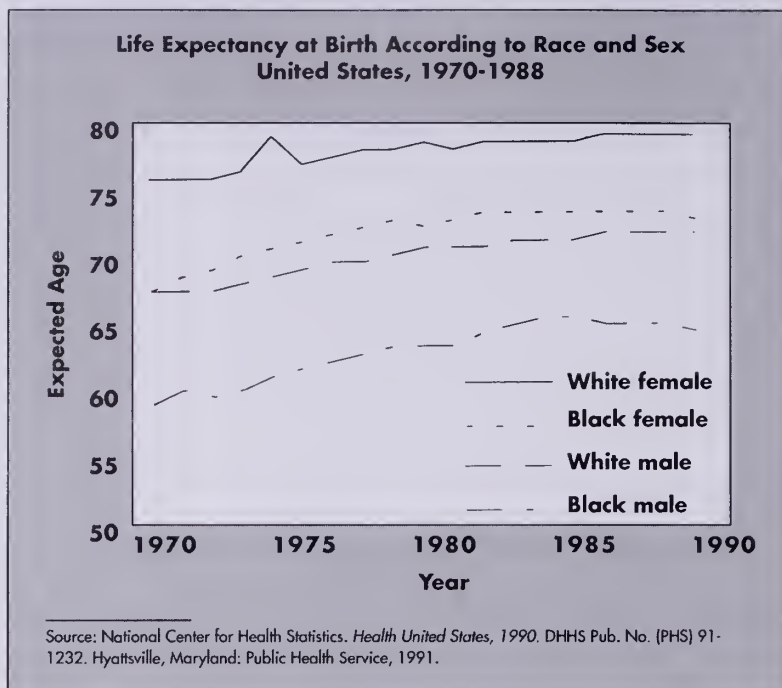
eral Accounting Office in 1990 which said that women were routinely excluded from research, especially clinical research, funded by the National Institutes of Health (NIH) and that policies on inclusion of women were both poorly communicated and not well understood by the research community. This led to the creation, by the acting director of the NIH, of the Office of Research on Women's Health to develop consistent policies and guidelines for an effective research program. This office now has three major functions<sup>1</sup>:

- To strengthen, develop, and increase research into diseases, disorders, and conditions that are unique to, more prevalent among or more serious in women or for which there are different risk factors for women than men;
- To ensure that women are appropriately represented in biomedical and biobehavioral research studies, especially clinical trials, that are supported by the NIH; and
- To take initiatives to increase the number of women in biomedical careers.

The Office of Research on Women's Health does not fund studies directly. Rather, it serves as a catalyst working with the various categorical institutes to see that appropriate studies are performed.

Why focus on women's health? First, as illustrated in Figure 1, women will constitute the larger proportion of the population in the future and will therefore, be the most susceptible to disease. The

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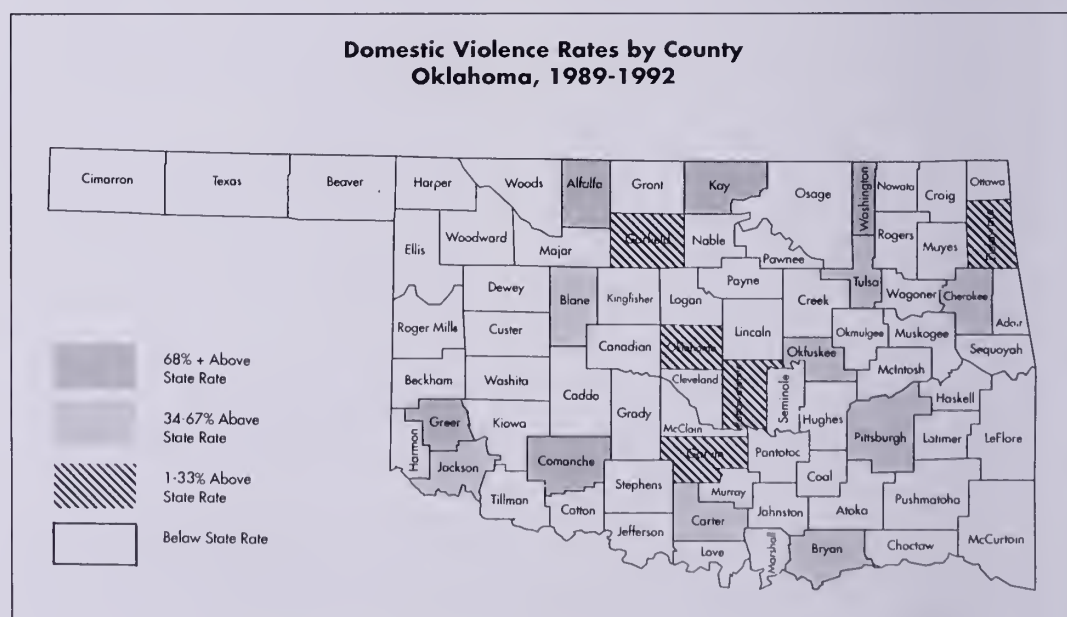
life expectancy for women in 1989 was 78.6 years, compared to 71.8 for men.<sup>2</sup> In 1990, women over age 65 constituted 59.7% of the elderly population and 72% of the population over age 85.<sup>2</sup> This means that women will suffer from the diseases of old age, such as osteoporosis and the dementias, in larger numbers than will men.

The second reason for the attention to women is that they have worse health than do men. Here are some examples of women's comparative vulnerability cited by the 1992 Report of the National Institutes of Health: Opportunities for Research on Women's Health<sup>2</sup>: one-half of all women with a myocardial infarction will die within

one year, compared to 31% of men; the rate of affective mental disorders in women is twice that of men; depression occurs four times as often in women; osteoporosis is much more common in women (89% of women over 75 will suffer from this disorder); Alzheimer's and related disorders are much more common in women, as are sexually transmitted diseases; women are confined to nursing homes and similar institutions at a rate three times that of men; and autoimmune disorders including systemic lupus erythematosus, rheumatoid arthritis, diabetes mellitus, and autoimmune thyroid disease are more prevalent in women than in men.

A third factor underlying attention to women's health is the growing awareness of family or domestic violence including child, elder, and partner abuse in which women are the victims 95% of the time. Figure 2 illustrates the rates of domestic violence in Oklahoma by county for the period 1989-1992. In this state alone, more than 15,000 domestic violence calls are answered every year by law enforcement bodies.<sup>3</sup> Of reported domestic violence incidents, 61% are assault and battery, 35% are assault, 3% are sex crimes, and 1% are murder.<sup>3</sup> One out of ten females report being physically hurt or in a physical fight with her partner during the twelve months prior to delivering a baby.<sup>3</sup> Figure 3 illustrates the cycle of partner violence.<sup>4</sup>

In response to increased awareness of the domestic violence problem, the American Medical Association has appointed an Advisory Council on Family Violence and three Oklahomans are members: Dr. Lori Hanson, Dr. Tisha Dowe, and





myself. The Oklahoma State Medical Association has a Committee on Family Violence which has produced a handbook for physicians.

The fourth rationale for interest in women's health is simply that some health problems are unique to women or affect women differently than men. Conditions unique to women include cervical, uterine, and ovarian malignancies. As indicated in the above discussion, the differing death rates from myocardial infarction in women is an indication of women being affected differently than men. In all too many cases, the natural history of disease is not well known in women, which makes it impossible to know for sure whether women are affected differently.

As previously reported in this journal,<sup>5</sup> a higher proportion of women in Oklahoma smoke than in any other state, and women in this state have a higher rate of smoking than men. Each year the state averages 700 deaths from carcinoma of the lung, 1,600 deaths from myocardial infarction, and 3,100 low birth weight babies.<sup>5</sup> As is the case nationally, lung cancer deaths in Oklahoma women exceeds deaths from breast cancer. Figure 4 gives the reason.

In addition, women in Oklahoma have a lower rate of mammography than the national average.<sup>6</sup> As a result, far too many Oklahoma women die of a disease that is curable in its early stages. Furthermore, the costs of caring for such women at the late stages of illness are great.<sup>6</sup>

In summary, it is critical that we begin to seriously address issues of women's health to identify those diseases in which there are differing risk factors or that affect women differently. This means that there is a need for additional research directed toward increasing our understanding of the natural history of common disorders in women. While such research is underway, physicians must be alert to the possibilities of diseases presenting differently in women than in men with a different natural history.

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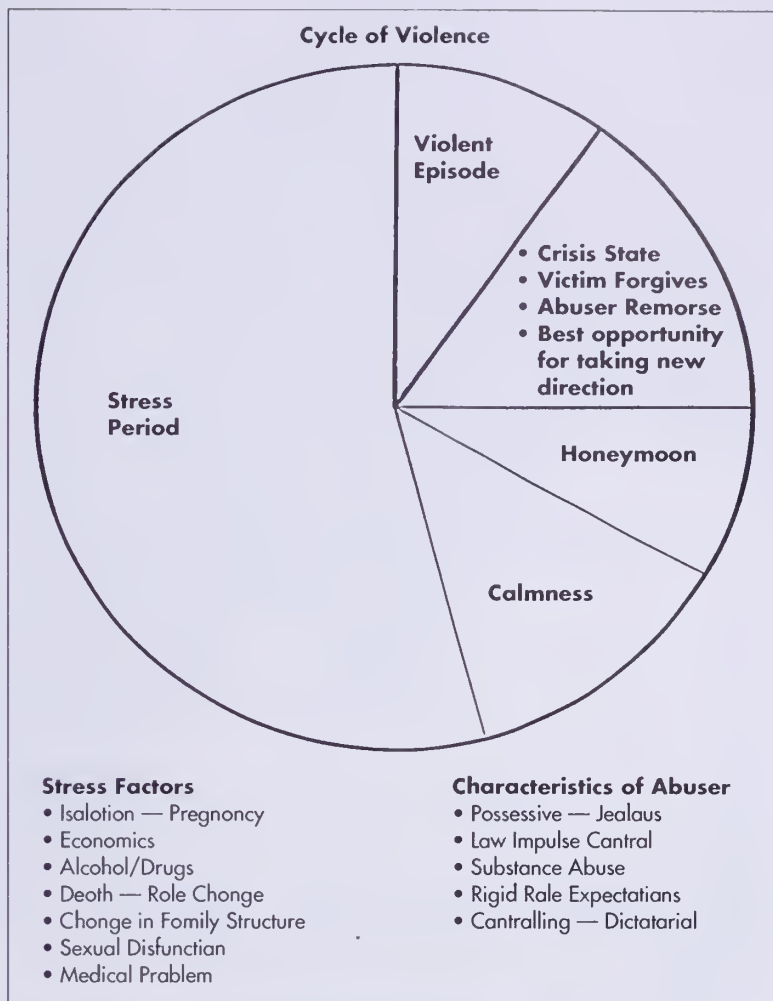


Figure 3.

Highest Percentages of Women Smokers			
State	Total (%)	State	Child Bearing Ages (%)
Oklahoma	35.4	West Virginia	36.2
Kentucky	33.3	Missouri	34.0
Colorado	33.2	Kentucky	33.2
		Michigan	32.6
		Delaware	32.1
		Oklahoma	31.5

\*Current Population Survey

Figure 4.

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# A Rare Breed



# A Rare Breed

By Richard Green  
Photography by Robert Taylor

Ed Calhoon's long-distance vision must be excellent because he didn't miss a thing that moved on that thirty-minute trip in his Jeep from downtown Beaver to the ranch. He responded to questions about his life and times, while frequently interrupting himself to note jackrabbits, deer, wild plums (the most healthful food in the world), coyotes (and the need for predator control), laying a new gas line (land owners get \$175 for every 16 feet of pipe laid), and a stampede of hundreds of tiny frogs appearing at the intersection of country roads (one of my old professors once said, "Just because you see toady frogs all over the place doesn't mean it rained toady frogs.")

His voice was strong, at times almost booming, possibly owing to a longtime hearing deficit from too much exposure to artillery fire in the Army. The cadence of his speech was irregular.



Calhoon addresses the AMA House of Delegates in Chicago. He served as an Oklahoma delegate to the AMA from 1970 to 1995.

Asides usually came out in a flurry, but when he spoke slowly and deliberately, he sometimes drew out words he wanted to emphasize: "You see, Ronald Reaaagan... had this fantasy... about being a cowwwwboy."

Often he used two words as punctuation: *see* was a comma and *okay* was a period or exclamation point, never a question mark. "Every time I saw Annie (Ann Landers), see, she'd be kissin' around on you. I'd say, 'Now be careful, Annie. I don't go kissin' around strange women.' Okay. Now, she always carried around this enormous purse, see, it looked like a suitcase." Calhoon grinned, his deeply lined face looking almost boyish.

The road was muddy and treacherous to non-4-wheel-drive vehicles. It had poured the last two evenings and the weather had been unseasonably damp and cool for June in Oklahoma's Panhandle. The sage and other vegetation yielded several hues of green, the Beaver riverbed contained flowing water, the cottonwood trees were caked with their cottony seeds, and a profusion of wild flowers was strewn across the rolling prairie. A metal sign on a gate suspended over a cattle-guard identified Calhoon's 12-thousand-acre ranch. When the Barby family owned it as part of their vast ranching empire, they called it the Three Crosses, and Calhoon has not changed it.

He seemed fresh and alert despite the hour (he had left home before 6 this Saturday morning) and his long (some would say grueling) Friday. He had seen sixty-five patients, made rounds at the hospital and nursing home, driven out to the ranch to show his wife, Felice, two new foals, and after finally getting home at 10 PM, had eaten a piece of Felice's key lime pie and hit the sack, only to get three calls during the night. The last one, at 4:45 AM, had concerned a woman who had broken her hip. "A few years ago... when I was stronger and more vigorous, I would have rolled out of bed and pinned that lady's hip myself."

Arriving at the corral, Ed seemed to be the first person on the scene. It was 6:30 AM and the men who were to help him round up 160 head of cattle had not arrived. He got out of the Jeep and put on his well-broken-in hat, which reeked of sweat and character. He looked at his watch and grunted, then noticed the horse he planned to ride that morning was already saddled and hitched to a fence. That was courtesy of the hired hand who lived with his family in the old Barby home. At 73 years of age, Ed mounted the horse gracefully and rode off to see about the cattle in the south pasture.

E



A delegate at the 1976 Republican National Convention, Calhoon was rubbing elbows with other well known individuals, including tv network onchar Don Rather (l) and Oklahoma's Governor Dewey Bartlett (r).



Recalling the Black Sunday dust storm of 1935, Calhoon said, "We saw a boiling wall of dirt, horizon to horizon and several thousand feet high; it was like a tornado running sideways."

He rarely sits still for more than a few moments except to read, Felice said. If you want to know about Ed Calhoon, you literally have to keep up with him. He doubtless considered formal interview sittings to be an inefficient use of his time. So Q&A was done between patients and while traveling in the Jeep. His responses to personal questions were brief, and he frequently veered off course, either because his speech couldn't keep up with his thoughts or because he had said all he wanted to say. A couple of things he wouldn't discuss at all. Another possible factor in his disinclination to discuss his past in depth is his taciturn nature. Panhandle ranchers don't do a lot of blabbing about themselves, especially to strangers.

Ed Calhoon always has belonged to an Oklahoma subculture; he is not only from the Panhandle but of the Panhandle. His father, Walter B. Calhoon, and mother, Wina Rae Latta Calhoon, were married in 1913 and moved from Missouri to Ellis County, Oklahoma. From there the family moved to Beaver County, the easternmost of the three Panhandle counties, where Ed Latta Calhoon was born in 1922.

He had two older brothers and would soon have two more brothers and a sister. Their upbringing was strict and religious, and the values of honesty, integrity, and hard work were stressed. As H.L. Mencken said of that time in America, throw a rock in any direction and you are bound to hit a fundamentalist. No carousing or movie-going were tolerated. When some students declared they would like to have a graduation dance, the superintendent said, "If you boys have your dance, I won't be signing your diplomas."

During the 1920s, Mr. Calhoon's cattle and wheat business did well, and Ed remembers those as happy years. He learned to ride a horse, he said, about the time he learned to walk, and not long after that, he was assigned regular chores. The family rose together at four in the summer and five in the winter. As a youngster, Ed helped a neighbor build a sod house, which he said was the last sod house built in the state. "I also helped him pick up cow chips, see, which he burned in lieu of wood."

There was another family nearby, and the older sister, Jewell, got married off by her pappy to a handyman from out of Arkansas. "They literally lived in a chicken house," Calhoon said. "Their



(Left) Ed and Felice Calhoon celebrate his graduation from the University of Oklahoma Medical School in 1951. (Right) Calhoon (r) and three classmates pose with two of their "acquaintances" in anatomy class.





Calhoon's newest office expansion has become his inner sanctum; a camfarting, relaxed environment for patients; and a veritable museum of Western art and memorabilia.

first child was born in that chicken house, delivered by Dr. McGrew. Later, that quarter section of land was sold for a pittance. Now, many years later, on that very spot where the chicken house had been, they brought in a big gas well that brought in \$1 million in the first six months of production. To think, see, those people who literally had nothing... were sitting on a fortune. Well, that's America."

In the late twenties, Mr. Calhoon bought a nice two-story house in Beaver so that the older boys could attend high school there. But the move had come on the eve of destruction. First, the Great Depression nearly wiped out the cattle and wheat markets. At times you couldn't sell cattle for any price. The family lost their big new home, which must have been particularly galling to Mr. Calhoon. Ed described him as "intelligent and sensitive, and self-reliant, a make-do kind of guy and a die-hard Republican who opposed Roosevelt's New Deal."

Then came the drought and the Dust Bowl years.

In 1984 articles in *The National Geographic* magazine and the *Tulsa World*, Ed described Black Sunday... April 14, 1935: "It was a beautiful Sunday afternoon... there was no wind.... All of a sudden it was dark. Then we saw a boiling wall of dirt, horizon to horizon and several thousand feet high; it was like a tornado running sideways. We were in a car. When the (black) cloud hit you couldn't see your hand in front of your face. There was static electricity everywhere."

Ed overheard his parents debating about whether to move on, like so many other Okies had. Walter wanted to join them on the road to somewhere better, but Wina Rae prevailed by pointing out that they still had their land and they were still eating. The family stayed and eventually were glad they did. Mrs. Calhoon taught school to help make ends meet. Ed studied hard, made straight As, and was the class valedictorian.

Aside from that, he had no time or inclination for extracurricular activities. He never competed in sports, and years later said the only running he





Calhoon is resplendent in the blue and black robe of a State Regent for Higher Education. His six-year term on the board ended this year, with him as chairman.

had ever done was after his horse. He summarized his social life by saying that when he was president of the OSMA in 1970, he got a call at the association's headquarters and the telephone

operator asked him if he were the Ed Calhoon from Beaver. She said, "You won't remember me, but I was in your high school class."

Calhoon said: "Now looky here, sis, don't be tellin' me who I wouldn't remember. You were my only date in high school!"

He had an early but not very abiding interest in medicine. His uncle was a doctor in Missouri and he would listen to his uncle tell Walter stories about his practice. Then a favorite teacher of his died during childbirth, and "I remember being very sad and thinking how... unjust that was. Maybe those two instances had something to do with it. Who knows?"

At any rate, there was never a doubt that all of Walter and Wina Rae's children would attend college. Ed enrolled at Northwestern State College in Alva in the fall 1940. After paying tuition, he had \$20 left for room and board (\$18 a month) and to rent books. But before he had settled in, his roommate said one day: "Let's go down and join the Air Corps." Without missing a beat, Calhoon said, "Let's go."

Ed was rejected and then dejected because his plan of being a fighter pilot was scotched; at six-five, he had grown too tall to fly in the Air Corps. His roommate, however, was accepted—and three months later was killed in action.

Ed made excellent grades in college, and because his father felt that the Panhandle had tremendous reserves of oil and gas, Ed had decided to become a petroleum engineer. However, after Pearl Harbor, he joined the Army.

In 1942 his father died, and his mother want-

Appointments never have been made or accepted at the Calhoon Clinic. "When people need me, see, they just come in and wait. They know I'll get to 'em as soon as I can."

## Professional Activities...

Ed Calhoon's professional activities alone comprise a significant contribution to the advancement of medicine in the state of Oklahoma:

- American Medical Association—Oklahoma delegate, 1970-95; Council on Rural Health, 1972-76; Council on Legislation, 1980-87; Member, Speakers Bureau
- American Academy of Family Physicians—Member, 1958-present
- American Medical Political Action Committee (AMPAC)—Member, 1962-present; Oklahoma choir, 1972-73
- Beaver County Hospital—Surgeon, 1954-present; Chief of Staff, 1970-1982
- Beaver County Nursing Home—Medical Director, 1993-present
- Beef Commission of Oklahoma—Medical Advisory Chair, 1985-present
- Calhoon Clinic Pharmacy, Inc.—1954-present
- Certified Medical Examiner for Class III Pilots, 1970-83
- Crippled Children's Commission in Oklahoma
- Interagency Committee on Smoking and Health—U.S. Secretary of HHS appointee, 1988-94
- NASA Life Sciences Division Working Group—U.S. Secretary of HHS appointee, 1988-91
- National Institutes of Health—Presidential appointee, Health Services Research and Development Advisory Committee, 1970-74; Member, team studying United Kingdom's health care systems, Health Care Systems Subcommittee, 1973;
- National Cancer Institute, Presidential appointee, National Cancer Advisory Board, 1982-88
- University of Oklahoma Medical School Alumni Association—Member, 1951-present; President, 1969-70
- Oklahoma Medical Political Action Committee (OMPAC)—Founding member, 1965; Choir, 1974
- Oklahoma Regional Medical Programs—Advisory member, 1965-70
- Oklahoma Academy of Family Physicians—Member, 1958-present
- Oklahoma State Medical Association—Member, 1953-present; President, 1970-71
- Oklahoma State Mental Planning Board—Member, 1965-75
- Oklahoma Teaching Hospital Restructuring Commission—Gubernatorial appointee to board, February 1987
- Oklahoma Cancer Society—Director, 1958-76 and 1987-present
- Oklahoma Heart Association—Director, 1980-88
- Oklahoma Economic Development Association, Chair, Health Planning Steering Committee, 1972
- Physicians Liability Insurance Company (PLICO)—Director, 1979-present

In these  
(AMA)  
councils, he  
was known... as  
a man short on  
words but long  
on common  
sense. "When  
he spoke,  
everybody  
listened..."

ed him to come home and take over the ranch. Ed received a hardship ruling and was discharged. He graduated from Northwestern in 1947 and had been persuaded by some college friends to study pre-med.

This disappointed his mother, who wanted her boys to be ministers. When Ed, Jim, and Harold all became physicians, she decided she had been called and was ordained a deacon in the Methodist church.

During his admission interview at the University of Oklahoma Medical School, Calhoon promised to return to a rural setting to practice, but he never dreamed it would be Beaver. After his rotating internship at Hillcrest Hospital in Tulsa, he took a two-year surgery residency there. He wanted to be a neurosurgeon and got plenty of encouragement from his attendings and peers to go back East for more training.

By then, Calhoon had married Felice, a music student at Oklahoma Baptist University, and they had a son, Scott. "I had to make a living, and I had two brothers who were wanting to go to medical school. One day this guy I knew from Beaver called to say that he and a delegation from town were coming to see me."

There were no strangers at the meeting; they knew him and he knew each of them. They explained that a doctor would be leaving town soon and that a hospital was being built. Ed could walk right into a full practice, make money immediately, and practice in a brand new facility. It made sense to him, and he quickly agreed to it. "I figured I'd practice in Beaver for a couple or three years, make some money, and then complete a surgical residency," he said, beginning to grin. "Forty years later, I'm still here."

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Grandsons Holt, Clay, and Reid (in white) love spending time at the Calhoon ranch.

Daughter Lane often helps out at the Calhoon Clinic when she is in Beaver for a visit.



**B**y 7 AM, five riders were saddled and ready to get the roundup underway. Calhoon had returned and they moved out together. At the crest of a hill, they fanned out to cover most of the large pasture where the cattle had wintered. Only one of the men actually worked for Calhoon. The others were ranch hands in the area and their labor that day was a trade-off.

An hour or so later, all 160 head had been rounded up and were being driven along a trail toward the corral. Ed and the others rode around the periphery of this moving cattle clot, periodically yelling and prodding at errant cows and stragglers. The men and their horses were in such sync that their work seemed almost effortless.





Irene McCune, one of Ed's nursing home potients, con brog that she knew him "bock when"; she used to bobsit Colhoon when he was a youngster.

Calhoon dismounted as gracefully as he had mounted and tied his horse to a nearby rail. The others rode into the corral with the cattle and began cutting out the older calves. Calhoon talked briefly with his hired hand and then said he had to get back to town; some patients might be waiting for him at his clinic. Appointments never have been made or accepted at the Calhoon Clinic. "When people need me, see, they just come in and wait. They know I'll get to 'em as soon as I can."

On the drive back into town, Calhoon announced he was ready for more questions. "Shoot!"

Have you ever voted for a Democrat? A long pause. "I think I may have once...." Calhoon said he cut his teeth listening to his father and others decry the "socialist tendencies" of the programs of FDR. But he didn't become politically motivated until his first year of medical school. One

night he was waiting tables at a banquet in downtown Oklahoma City and the after-dinner speaker was Gen. Leslie Groves, the Army's liaison to the Manhattan Project. The general's speech about the development of the atomic bomb stirred in the young man a yen to get involved in public policy issues.

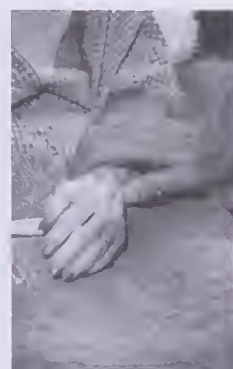
His *modus operandi* would be working within the state Republican Party... which, prior to the 1960s, was nearly as dead as the rattlesnake he passed on the road back into town. "The party was nothing until Henry Bellmon came along," he said. "I liked him right off... he was in the state legislature. I was the only doctor in Oklahoma who was a delegate to the state Republican convention. Now that's just a fact.... Once, Henry introduced me to Hubert Humphrey in the Senate dining room. He had been a pharmacist before going into politics, see, and after we were introduced he says to me (imitating Humphrey's rapid, clipped speech) 'I might just come out there and be your pharmacist.' Ol' Hubert, you liked him; you couldn't help it, even though he was one of the most liberal Democrats who ever lived."

When Vice President Humphrey ran for president in 1968, Calhoon was the state chairman of Oklahomans for Nixon. He was also becoming more involved in organized medicine. He had gotten a lot of visibility in the state as president of the OU Medical School Alumni Association in 1969 and 1970, after a statewide bond issue had been passed to transform the old medical center campus into a comprehensive health sciences center complex with the medical school at its hub.

Moreover, Calhoon was increasing his political activity in the state medical association, and Executive Director David Bickham said this seemed to rub off on some of the other members. "During this time in the late sixties and seventies, OSMA went from being virtually non-political to relatively sophisticated politically. Ed was one of the important founding members of our political action committee (OMPAC)."

**F**ollowing his year as president of the alumni association, Calhoon was elected president of OSMA in 1970. Probably nobody thought a guy from the sparsely populated Panhandle could be elected, but a group from state medical had approached him to run, and he had said he would. One of his predecessors, Dr. Hilliard Denyer, told him that to be president would cost him the equivalent of one steer a month.

After his election, he told the *Tulsa World* that physicians should be a little more available to their



Dr. Booth said, "You do this almost as well as the chief surgeon at our teaching hospital." Smiling down at the shorter man, Calhoon said, "Hell, I do it better."

## Political Activities...

It could be argued that while medicine is Calhaan's vacation, politics is his avacation:

- Beaver County Republican Party—Chair, 1965–76
- Oklahoma State Republican Finance Committee—1976–82
- Oklahoma State Republican Executive Committee—1977–78
- Oklahoma State Republican Party Speakers Bureau
- Oklahamans for Nixon—Chair, 1969
- Reagan/Bush Campaign—State Co-Chair, 1980 and 1984
- Republican National Convention—Delegate and State Co-Chair, Oklahamans for Ford/Dale, 1976; Alternate Delegate, 1984 and 1992
- *Who's Who in American Politics*—1970–present





In a pose familiar to everyone who knows him, Calhoon intently studies a patient's chart.

He told the  
National  
Cancer  
Institute to  
"quit messin'  
with mice; mess  
with humans..."

patients and more compassionate. On national health insurance, he said, "Look at Great Britain's failure with the system." On the role of government in health care, Calhoon said to let the government "build more medical facilities and help educate more people for health manpower, but let the doctor take care of the patient."

Most of his PRESIDENT'S PAGE reports in the JOURNAL were an elaboration of those themes. But he also reported state plans to upgrade the practice of medicine in rural areas. One plan called for ameliorating the shortage of physicians in rural areas by creating a loan program that would forgive the repayment of medical student loans in return for agreeing to practice a minimum of two years in medically underserved areas. A locum tenens program would encourage city doctors to replace their rural counterparts while the latter continued their postgraduate training.

Beaver is four hours driving time from Oklahoma City. In order not to waste so much of Calhoon's time, OSMA told him to charter flights from Liberal, Kansas, to Oklahoma City. He tried that, but the weather often didn't cooperate and the delays in getting home were intolerable to him. So Felice started making the round trip with him and once or twice, Bickham recalled, Calhoon arrived in a Beaver ambulance so he could sleep or read during the trip. Once, when a blizzard left him snowbound in Oklahoma City, he jumped aboard a National Guard helicopter and helped to rescue about forty persons stranded in northwest Oklahoma.

In the *Oklahoma Journal*, Calhoon said, "We picked up seven people in an old line-shack next to an oil rig. One was pregnant." Between Buffalo and Beaver, he spotted a truck in which six persons had been huddled under blankets for two days and nights. He also took insulin to Gage for a juvenile diabetic who wouldn't have lived much longer without it. Calhoon said that making house calls by helicopter was "the chance of a lifetime. We just landed our helicopter in their yards and you never saw such surprised people. We sometimes landed in four-foot drifts."

Calhoon also was elected in 1970 to the AMA House of Delegates, a position he filled continuously until this year. He was a member of the AMA's Council on Rural Health and Council on Legislation. In these councils, he was known, said Bickham, as a man short on words but long on common sense. "When he spoke, everybody listened and respected him and what he had to say—even if they didn't always agree with him."

As a member of a National Institutes of Health review panel on health services research and development in the early 1970s, Calhoon volunteered to visit Great Britain to study its national health-care system. Given his prior public pronouncements on the British system (a colossal mess), sending Ed Calhoon to study it was a little like sending the fox to look after the hens. At any rate, Calhoon spent two weeks in Britain talking with fifty doctors of all kinds, hospital staff, and patients.

He wrote a report and submitted it to the OSMA JOURNAL. While he was generally complimentary of the British physicians' competency and dedication to their patients, he found their answers to be so similar that he "almost got the eerie feeling that they had been brainwashed by the government." And in marked contrast to his own practice, he was struck by the fact that the practice of GPs was so restricted. They were not permitted



Young or old, patients obviously have no trouble relating to Calhoon.

12-year-old boy named Dominick. They had met him on their tour and learned he had leukemia. They invited him to Beaver and, after his transportation was arranged, he arrived and stayed with the Calhoons for about six weeks. During that time, he attended school, learned to play ball, ride a horse, wear proper cowboy gear, and drive Ed's truck. "He loved driving all over the ranch while Ed read medical magazines," Felice said. "Once while Ed was reading a journal, Do-

Chancellor Hans Brisch said Calhoon is "a first-rate individual and a first-rate regent... the salt of the earth."

to do surgery or virtually any lab tests and were "psychosomatically oriented" in their patient care.

Calhoon concluded that British medicine was "years behind" the American system, that the British government discouraged costly procedures by "trusting false statistics," and that innovation and research were almost non-existent at all levels.

Before leaving, he and Felice invited Dr. Humphrey Booth of Huddersfield, England, to visit them in Beaver. The next year Dr. Booth did pay the Calhoons a visit and, while he was irritated by Calhoon's report, he loved the couple's hospitality. They took him to the Lloyd Barby Ranch where he watched calf-roping. He scrubbed in at the Beaver hospital and watched Calhoon do gall bladder surgery. Dr. Booth said, "You do this almost as well as the chief surgeon at our teaching hospital." Smiling down at the shorter man, Calhoon said, "Hell, I do it better."

The Calhoons had another English visitor, a

minick fell off of his horse and that scared us to death. But he was a tough little guy and by the time he returned to England, tanned, a little heavier, and in his cowboy gear, they didn't recognize him."

Dominick cried when he had to leave and was never able to return. He died at age 14.

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**A**lthough Calhoon has always practiced solo, his clinic has doubled in size in recent years. During the most recent expansion, a few years ago, he added an enormous room with cathedral ceiling, skylights, and a large fireplace at the far end presided over by a huge moosehead (courtesy of a friend). It is, in effect, a beautifully and tastefully furnished museum but one with plenty of room for relaxing. The room contains two desks—one marked DR. ED CALHOON and one FELICE

## Community Activities...

When he's not busy being a doctor, a politician, or a rancher, Calhoon goes about the business of being a good citizen:

- American Legion—Member
- Chamber of Commerce, Beaver, Okla.—Member, 1953–present
- First State Bank, Fargan, Okla.—Member, Board of Directors, 1980–86
- Masonic Lodge #69, Beaver, Okla.—32nd Degree Mason
- National Cowboy Hall of Fame and Western Heritage Center—Director, 1994–1997
- Oklahoma Heritage Association—President, 1992–94

- Oklahoma Center for Advancement of Science and Technology—Member, Board of Directors
- Oklahoma College of Liberal Arts—Member, Board of Regents, 1965–72
- Oklahoma Foundation for Excellence—Trustee, 1990–present
- Rotary International—Member, 1958–present; Past President
- School District #22—Board member, 1964–65
- State Regents for Higher Education—Member, 1989–95; Chair, 1994–95
- United Methodist Church, Beaver, Okla.—Member





That handsome fella on the left is Rancher, one of the registered quarter horses Ed raises. The Calhaans also have a registered Egyptian Arabian stallion.

CALHOON — two large couches covered with Indian blankets, and an easy chair flanking a coffee table topped with picture books of the West. Also displayed are numerous specimens of stuffed wildlife and two of the sixty-odd saddles that Calhoon owns. (The rest of the saddles and his collection of rifles, which date back to the Civil War, are stored in a prefab building behind the clinic.)

Along one wall is a beautiful custom-made display case filled with dozens of pewter figurines of Indians and of the Old West. Across the room is a matching floor-to-ceiling bookcase displaying hundreds of books, journals, and photos of some of his Republican friends. From Henry Bellmon and Dewey Bartlett (the twin towers of Oklahoma's Republican Party in the sixties and seventies), to Jesse Helms and Tom Stafford (in his astronaut uniform) to George Bush and Ronald Reagan.

There is one group photo of four U.S. presidents that bears their autographs—Richard Nixon, Gerald Ford, Jimmy Carter, and Ronald Reagan. This photo and the signatures were obtained for Calhoon by his daughter, Lane, when she worked in the Reagan Administration. Calhoon does have one photo of a Democrat, President Lyndon Baines Johnson, leaning on a desk in the Oval Office looking straight at you. This photo is mounted on the wall over the toilet in Calhoon's restroom.

### Academic Appointments

- University of Oklahoma Health Sciences Center—Preceptor, 1954–89

### Military Service

- U.S. Army—1942–44, honorable discharge

### Awards

- A.H. Robins Community Service Award—1980
- Honored Medical Alumni Status—1980
- Oklahoma Physician of the Year Award—1984, from University of Oklahoma Medical School Alumni Association

As Dr. Calhoon's stature grew with the AMA in Chicago during the 1970s, it likewise increased in Republican circles statewide and nationally. In 1976, as a delegate to the Republican National Convention, he supported Ronald Reagan, not President Gerald Ford, for the nomination.

Calhoon twice served as state co-chair for the Reagan-Bush ticket in 1980 and 1984 and was a delegate to the Republican Convention in 1980; Felice was the delegate in 1984 (they needed women, she said) and Ed was an alternate. In the 1980 campaign, Calhoon was dispatched to the Oklahoma City airport to accompany Reagan to his hotel. "We both sat in the back of this limo and I tried to make small talk. He wasn't saying much, so I thought, he's the big man and I'm not gonna push him. So I shut up. It was quiet for a time and then he opened up. He couldn't have been more affable. He asked if I knew about horses. I said I did and told him this story: When I was a kid during the Depression we didn't have any grass or water on our spread for the livestock, so we moved our cattle about sixty miles down to Wolf Creek, near Gage. The next day, I told Dad I'm gonna go swimming and he said I wouldn't be doing any swimming, that I had to take the horses back home. I was disappointed, naturally, but what could I do? I left early and got home late. Well, Reagan got a kick out of that story."

Had they been around one another longer, they might have become good friends. Calhoon was a rancher and physician and represented many of the qualities and values that Reagan most admires. And according to Calhoon, Ronald Reagan was the right man in the right place at the right time for America.

In exchange for his support, Calhoon was asked by Reagan campaign staffer Rick Shelby, an Oklahoman, what national board appointment he would like. Calhoon didn't pick a plum, but his six years of service (1982–88) on the National Cancer Advisory Board was a highlight of his life. He has a large framed picture of the board on his wall and he delights in telling stories about some of the members.

A UCLA surgeon named Dr. Longmeyer told Calhoon that he couldn't help but get emotionally involved with one of his dying patients, John Wayne. And another time, the Los Angeles surgeon told of how another board member, Armand Hammer, chairman of Occidental Petroleum, called him one day to ask if he had a book describing kidney transplant surgery. Longmeyer said he did. Hammer said he was dispatching a private plane to L.A. to fetch the book, which was



then flown across the Atlantic to Russian surgeons who used it to cookbook a kidney transplant on Premier Andropov of the Soviet Union. He died two weeks later.

Calhoon was the board's gadfly. He told the National Cancer Institute to "quit messin' with mice; mess with humans," and he complained every year about so many research grants going to Stanford and Harvard. "This guy Korn (dean of the Stanford Medical School) hated me." Felice interrupted: "He didn't dislike you, Ed. He had just never seen anyone like you."

"Well, anyway, I wasn't Mr. Academia, but I had a little common sense and I could see that Stanford's direct and indirect costs were too high, see, and I was critical. This Korn just hit the ceiling. Later, it came out that Stanford had cheated on millions of dollars in grants, and they were chastised severely."

Calhoon was the only AMA delegate in modern times to sit on the National Cancer Advisory Board, and his two main goals were promoting anti-smoking programs ("I had two brothers die of smoking-related diseases") and fostering cooperative efforts between the Cancer Institute and the AMA. The first thing he did was declare the AMA "soft on tobacco" and demand that the AMA divest itself of its tobacco stocks and ban smoking in any AMA venue.

**T**his didn't sit well with AMA Executive Director James Sammons, who was a smoker, but they were already long-time enemies. "I've gotten to be a pretty good judge of character and with Sammons... well, I just never liked what I saw."

Calhoon invited Dr. Vincent De Vita, head of NCI, to meet AMA President Bill Hotchkiss to discuss ways to develop liaisons. And while they were cordial, Calhoon said, nothing really worthwhile happened. Just "turf protecting."

While he was at it, Calhoon also tried pooling resources on the local level to obtain more cancer research funding. Following the united front model used in Houston to build M.D. Anderson, Calhoon suggested a system featuring all the major Oklahoma City hospitals, with University as the hub, so that enough patients would be attracted for larger cancer research protocols. Calhoon is willing to blame himself for the plan's failure to thrive. "I just didn't have enough influence," he said. "Maybe if there'd been some big shot here, it might have worked."

Through the eighties and nineties, Calhoon has



served on numerous state and national boards, a task he thoroughly enjoys, for it enables him to be of service and to meet and interact with intellectually stimulating and successful people.

He was active at the state capitol last spring, standing firm against any legislation allowing the encroachment of alternative medicine and its practitioners into the realm of medical diagnosis and treatment. Herbalists, nurse practitioners, psychologists, and optometrists, for example, have no business diagnosing, treating, or prescribing for conditions traditionally handled by fully trained medical doctors, and he was there to make sure legislators understood that.

Recently, he completed a six-year term on the Oklahoma State Board of Higher Regents. Again, his term was marked by some successes, such as keeping the construction of OU's Family Medi-

State Republicans threw a little party back in January of this year—the Inaugural Dinner and Ball for newly elected Republican Governor Frank Keating. Naturally, Felice and Ed Calhoon were there.

Calhoon met  
several college  
professors  
whom he  
described as  
“argyle-wearing,  
sweater-toting,  
funny-capped,  
Meerschaum-  
pipe-smoking,  
Friday-night-  
drinking,  
Saturday-  
afternoon-ball-  
gaming.”

cine Clinic Building on the front burner until the statewide higher education bond issue was passed. Along the way, Calhoon met several college professors whom he described as “argyle-wearing, sweater-toting, funny-capped, Meerschaum-pipe-smoking, Friday-night-drinking, Saturday-afternoon-ball-gaming. They didn’t seem oriented toward anything... but a high-strung flow of idiotic knowledge that didn’t help their poor students.”

Higher Regents Chancellor Hans Brisch said Calhoon is “a first-rate individual and a first-rate regent.” During his last year, Calhoon was chairman and Brisch said he ran a tightly focused meeting. He had a commanding presence, which helped set parameters, but he did not dominate other members. He chose his words carefully and didn’t add his two cents on every issue.

“Once I was a guest in his home and several of us stayed up pretty late,” Brisch recalled. “As we were finally signing off, he was called away to stitch up a cowboy’s injury. Being an early riser, I got up at 5:30 AM thinking I’d be alone. But there was Ed in an armchair reading a magazine. He told me he’d just got back from delivering a baby. He is the salt of the earth.”

€

Whether Calhoon is making rounds in the hospital and nursing home or eating a steak with Felice in a cafe in Beaver or Forgan, everyone knows him and seems to like him (they all call him “Doc”). Stories and anecdotes are accompanied by much glad-handing, ribbing, and laughing, punctuated with lots of “I declare!” and “You don’t mean it!” Although Calhoon is the only person for many miles around who is a member of the Oklahoma Hall of Fame (1989), there is never any pretense, never any airs, said one of the cafe diners. “Just a regular guy. One of us.”

At 73, Calhoon is slowing down. When his daughter Lane’s husband was killed in an airplane crash in 1993, Ed was devastated, Felice said. Bickham thinks Ed has never fully recovered the vitality and zest he once had. Felice said he briefly considered retiring but instead bought their 12,000-acre ranch from the Barby family. They also own several thousand acres of other Panhandle ranch and farmland and about 500 head of cattle. Retirement is not in the picture, not when life is this good. The Calhoons still make periodic trips into Oklahoma City, where they visit son Scott, a surgeon, and his family and where Ed serves on the boards of the Cowboy Hall of Fame and the Oklahoma Center for Advancement of Science and Technology. “I just love practicing medicine



and my patients too much. I've known many of 'em a lifetime. I grew up with some of them over there in the nursing home."

Seeing them on his rounds is a daily reminder that nothing lasts forever, that the only thing permanent is change. But for now, he is happiest at home in Beaver putting in sixteen- to twenty-hour days at work and on the ranch. A lot of things about the practice of medicine have changed during his forty-year career—some good, some bad. Yet it's hard to imagine, just watching him interact with the nurses and patients, friends all, that things could have changed that much.

At the nurses' station in the hospital, he and they weave in and out of professional and conversational talk almost seamlessly. A minor obstacle is Ed's hearing problem, but he and the nurses stand so close to one another, occasionally raising their voices, that communication isn't really a problem.

He was on his speaker phone, his booming voice carrying throughout the clinic. He was talking with someone in Washington about Sen. Bob Dole, whom everyone in Beaver knows is Ed's choice for president in 1996. Ed was advising the other party that Sen. Dole needs to start calling cam-

paign contributors and supporters personally, right away. "There is just no substitute for this," he said. "George Bush called me in 1988 and told me he was gonna run and asked for my support."

Called away to the hospital emergency room, Ed strode (people who are six feet five inches tall stride) across the street and entered the service entrance. There was a burly, hairy, and nearly toothless 54-year-old man reclining on the ER bed; ECG leads were on his chest and handcuffs around his ankles. "He says he's got chest pain," reported the deputy sheriff to Dr. Calhoon.

After a fifteen-minute conversation with the inmate and a look at his ECG, Calhoon decided the man was probably not a malingerer and admitted him overnight. The man had said something that Calhoon repeated three or four times later that day to Felice and others. He got scared when his chest pains started and he said, "Doc, I don't want to die in jail."

"Think of that," said Calhoon, marveling. "I don't want to die in the pokey."

€



For now, he is happiest at home in Beaver putting in sixteen- to twenty-hour days at work and on the ranch.





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## Worth Repeating

# Insurers pursuing Medi-Cal patients

By Sally Lehrman of the *San Francisco Examiner* staff

**N**ew mothers have been approached in their hospital beds. Women have been solicited outside their churches or in front of their children's schools. Elderly people have been signed up in bars and on the street, lured by the promise of marvelous new benefits.

Health insurance plans suddenly are scrambling after patients who formerly had to hunt for a willing doctor. As the health care industry grows more crowded and competitive, insurers have come to view Medi-Cal and Medicare recipients as the last unmined market.

Julia Leavitt, 82, says she has gotten as many as five solicitations a week. One health plan even addressed a \$4 check to her deceased husband—the fine print said he would join automatically if he cashed it.

"It's hard enough getting older, with all the fears that go with it, without being besieged every day by mail promising the moon," Leavitt said.

Insurance companies reason that women and children on Medi-Cal usually are healthy and won't demand expensive care. And they say they can manage most elderly Medicare patients for less than the government has agreed to pay.

"A couple of years ago, you couldn't get an ob-gyn to take on a Medi-Cal pa-

tient," said Linda Bergthold, vice president at Lewin VHI, a consulting company in Sausalito. "Now, they're negotiating over them like they were prize heifers."

For consumers, however, sudden popularity hasn't necessarily meant better health care or more access to doctors. Physicians and patient advocates have documented health plans that refuse to treat patients in the emergency room,

Nearly half of recipients  
must be in health plans  
by June 1996

require weeks of waiting for routine lab tests, and separate elderly patients from doctors they have seen for decades.

The state's intent to put nearly half of the 5.5 million Medi-Cal recipients into health plans by next June has intensified the hunt for patients. The company with the most people signed up will be in a strong position to get the state contract for a particular county. Meanwhile, every mother among the 993,000 Medi-Cal patients now enrolled brings in about \$78 per month—whether or not she ever sees a doctor.

Medi-Cal is a state health care program for Californians who are needy, aged, blind, or disabled; by June 1996, 2.3 million are to be shifted into health insurance plans.

Medicare covers for 3.7 million Californians who are over 65 or disabled; already, about 30 percent are in managed-care health plans.

The market is lucrative. While the state historically has paid less than commercial rates, some private managed-care plans have dropped reimbursement levels below Medi-Cal's. And the government pays the same amount for every Medicare patient—95 percent of the average Medicare costs per person in an area—no matter how well or sick the individual may be.

An Examiner calculation based on state records shows that in the fourth quarter of 1994 alone, California hospitals billed Medi-Cal and Medicare \$8.1 billion, 55 percent of their income for the period.

The revenue has become more important with the advent of managed care, an insurance company strategy that emphasizes preventive care, limits trips to the doctor, and keeps a strict eye on expenses. With patients spending less time in the hospital, "we're all scrambling for volume," said Ginger Ayala, president and chief executive of St. Luke's Health Care Center in San Francisco.

**A**yala says St. Luke's has adjusted by becoming the most efficient hospital in the state, spending half the amount others do on care. There are no redundancies on the staff or "fluff" such as teaching programs for doctors and nurses.

The hospital, which cared for low-income patients for many years, found itself struggling to keep patients that other hospitals used to dump on its doorstep.

## Medi-Cal (continued)

St. Luke's earned 66 percent of its fourth-quarter revenue from Medi-Cal and Medicare patients, according to state figures, or \$23 million in all.

San Francisco General, which serves more poor patients than any hospital in The City, worries that it may lose its client base to hospitals like St. Luke's. S.F. General collected \$63 million in the fourth quarter from Medi-Cal and Medicare, or 64 percent of its revenue.

The hospital has invited PacifiCare, one of the state's largest HMOs, to set up tables in its clinics and persuade Medi-Cal recipients to stay with the hospital under the health plan's umbrella.

Soon, the hospital plans to secure its base of elderly patients through a Medicare health plan under development by PacifiCare.

The hospital has dressed up for the competition. For the first time in a decade, S.F. General has furniture in its lobby. The face-lift eventually will in-

clude a modern nursery, a new parking lot, and labor-delivery rooms with big bathtubs and artwork on the walls.

Managed-care supporters say that health plans improve preventive care and ensure that patients have doctors who know them. Health plans have found and treated conditions including prostate cancer, cervical cancer, and breast can-

"The game is bodies now—as long as they're not terribly sick."

cer earlier than old-style insurers, according to several studies.

Next year, Bay Area Medi-Cal recipients who are not aged, disabled, blind, or children in foster care will have to shift into one of two health plans.

One will be a commercial plan, such as Foundation or PacifiCare, designated by the state for each county. The other will be a public-private plan devel-

oped by the county along with hospitals, doctors, and clinics that historically have served the poor.

State officials hope the change will provide every young mother, indigent adult, and child in poverty with a doctor. In practice thus far, however, once patients sign up for an insurance company's Medi-Cal or Medicare plan, they often find they can't get the care they expect.

Industry analysts say hospitals are paid even if they don't provide treatment, so patients sometimes must fight for care.

The San Francisco Neighborhood Legal Assistance Foundation cites cases in which patients couldn't get prescriptions, transportation, or a doctor who spoke their language.

In a suit against Foundation Health, San Franciscans Edward Ivy, Dung Le, Tran Hue Tran, Cheong Wong, and My Hanh Truong contended that the insurer had tricked them into joining with tales that their Medi-Cal would other-

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wise expire. Le, who was being seen for cancer at UCSF by doctors who spoke Vietnamese, was cut from the treatment program. Wong, who signed up in front of a fire station while going in to pick up Christmas toys, found he had to stop seeing the Chinese-speaking doctors who knew his family.

Shortly after the suit was filed in February, Foundation, which had been the subject of hundreds of complaints, agreed to stop pitching its programs door-to-door in San Francisco.

Foundation agreed to inform new San Francisco members that they had the right to drop the plan and to mail them the proper form in five languages. Foundation sent out the letter July 20.

Kurt Davis, spokesman for Foundation, said the company's practices weren't unusual or unacceptable.

"Other hospitals got upset about the threat of losing their patients," he said. "They fanned the flames of confusion and didn't help patients understand how the program worked."


Complaints about Medicare health plans have begun to climb, according to Neighborhood Legal Assistance.

**T**he California Medical Association has thrown its support behind two bills that would put controls on Medi-Cal health plans. They would eliminate door-to-door marketing, ensure that health plans include culturally sensitive and linguistically appropriate medical facilities, and require tougher oversight of managed-care plans.

Patient advocates say they're not going to let insurers mine the Medi-Cal and Medicare populations without feeling the consequences.

"They're going to find there are a lot of unmet problems they're going to be on the hook for," vowed Michael Keys, staff attorney for the Neighborhood Legal Assistance.

But industry analysts say Medi-Cal and Medicare patients offer health insurance plans the last big opportunity to grow.

"These populations are the last to be scooped up," said health care consultant Bergthold. "The game is bodies now—as long as they're not terribly sick." 

## HEALTH DEPARTMENT

### Fear of violence threatens American lifestyle

The fear of violence is part of the American lifestyle and for many, the great-est risk for violence is inside their home. The threat is not from strangers, but from those they love. Family violence takes on many forms. According to a 1995 report by the Oklahoma Council on Violence Prevention, domestic violence is reported in our state every 32 minutes. Approximately one out of every five homicides in Oklahoma involves intimate partners. In most cases, the victims of family violence are women.



Yet, the damage does not stop with the lives of women. Family violence targets the most vulnerable, including pregnant women and their unborn children. The *Oklahoma Prams-Gram* states that one in ten women report being physically hurt by their husbands/partners or being in a physical fight 12 months prior to the birth of their baby. According to the March of Dimes, these women are twice as likely to miscarry and four times more likely to have low birthweight babies.

For those children who witness their mothers being injured, half of them are also abused by the batterer. In fact, these children are physically abused or seriously neglected at a rate 1500% higher than the national average in the general population. Battering is the single most common denominator among mothers of abused children. In Oklahoma, 80% of the battered women who seek shelter in our domestic violence agencies bring their children with them. In fact, children comprise 55% of the domestic violence shelter populations.

Were it classified as a disease, family violence would be considered an epidemic. It cuts across all lines, including race, class, religion, age, sex, developmental disabilities, sexual orientation, and socioeconomic status. As health professionals, we should join other professions such as those in the legal, mental health, and domestic violence arenas in the prevention of and intervention in family violence. It cannot be assumed that those individuals with no signs of injury are not victims in their homes. There are many victims, both young and old, whose lives are in imminent danger—yet, they have no mark on them.

Therefore, health care professionals must make it a point to ask all patients about the abuse and violence in their lives. Studies have shown that if patients are asked in a direct, caring manner, they will respond. One of the problems in identifying victims is that these questions oftentimes are not asked. Research shows that 80% of Americans feel they could tell a health professional if they had been involved in an abusive situation either as a victim or a perpetrator.

Many professionals become frustrated when patients reunite with their abusers or the courts return innocent children to dangerous households. Yet, it is imperative for health care providers to discover and treat victims of family violence. They may be the first or only person to believe these stories and offer hope of safety.

Professionals from the Maternal and Infant Health Services and the Child Health and Guidance Services of the Oklahoma State Department of Health are available to train staff who work with victims of family violence. For more information about training regarding domestic violence and/or child abuse, please call DeLynn Fudge, MD, LPC, 405-271-4477 or Annette Wisk Jacobi, JD, 405-271-4476.

### Oklahoma/CDC project makes hemophilia reportable

The Oklahoma State Department of Health, working in collaboration with the Centers for Disease Control and Prevention (CDC) and the Department of Biostatistics and

Many professionals  
become frustrated  
when patients reunite  
with their abusers...

## Project makes hemophilia reportable *(continued)*

Epidemiology of the OU Health Sciences Center, has established a surveillance system to determine the prevalence of hemophilia in the Oklahoma population, as well as to study the long-term complications associated with the disorder. The ultimate goal of the project is to develop interventions that will minimize or prevent the physical and financial burdens associated with hemophilia. To assist in surveillance, and to protect confidentiality, hemophilia has been declared a reportable disease by the Commissioner of Health. The project is entering its third year and recently received notification from the CDC that funding will be extended through 1999.

Using multiple methods of case identification, 194 confirmed cases of hemophilia (150 Factor VIII deficiencies and 44 Factor IX deficiencies) have been identified in Oklahoma for 1993-94. Of these, 185 were males and 9 (5%) were

females, and 75% of all cases were less than 40 years of age. The number of confirmed cases in males for 1993 was 175, resulting in a prevalence rate of 1.14/10,000 males. This rate is 14% to 43% less than anticipated based on expected rates of 1/7,500 and 1/5,000, respectively.

Physicians are being asked to inform their patients with hemophilia about this project.

Given what is thought to be nearly complete case identification, the lower than expected prevalence probably reflects the current high mortality in this population from AIDS. Of the 194 cases, 63% are Oklahoma Hemophilia Treatment Center patients, and 37% are non-treatment center patients. In addition to the treat-

ment center, sources used to identify cases included a statewide search of records from private physicians, hospitals, laboratories, pharmaceutical companies, home-health care, and patient advocacy groups. The most efficient sources for surveillance have been hospitals and private physician's offices, which together identified nearly 90% of the non-treatment center cases.

Project protocol does not allow any direct contact of persons with hemophilia by project personnel without consent of the private physician. It is important, however, that the hemophilia community be informed that this surveillance effort is taking place, and thus, physicians are being asked to inform their patients with hemophilia about this project. If any physician or patient is interested in obtaining additional information, they are encouraged to contact State Project Coordinator Barbara Erickson at (405) 271-3970 or (405) 271-2229 (collect calls accepted). T



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## LETTERS

### Doctors, take care of your patients!

*Dr. Chester Bynum, chairman of the OSMA Board of Trustees, was good enough to share the following letter from Dr. Joe L. Duer, OSMA past president, who approximately less than two weeks after writing it.*

Dear Chet,  
I'm a 90-year-old that has been and am near totally deaf, so that precludes any meetings.

I spent my practicing years with tenure as president working against Socialized Medicine. I am the only President to go to every county in the state in person with my message. I get no satisfaction in looking down on a corpse and saying, "I told you so!"

Medical care was always declared actuarially uninsurable. It still is. Now insurance is subsidized—which is not insurance. What can Oklahoma doctors do with a national problem? There is only one answer for the greatest profession in the world: Take care of your patients.

As to the medical insurability: A group in Dallas organized a mutual—and I emphasize mutual—group known as the Blues. Blue Cross and Blue Shield, dedicated to the concept that the medical bills *can* be paid. Note that. Patients, doctors, and hospitals agreed on a fee schedule for illnesses. The patients bought the insurance. The participating doctors and hospitals accepted a fee schedule for their illnesses. Non-participating doctors and hospitals were paid the same amount. Surprise! It worked.

Noting this, the commercial companies came alive to provide payments, dedicated—of course—*so their shareholders could make money*. The abuses were inimitable. I have had medical insurance policies written from the bedside of my dying patient.

Current issues are national and beyond the state. The state must and should maintain its activity with the AMA. Wish I could help more—but it's too late.

As to physicians' fees, I noted in a radio interview that by far the physicians' fees were not physician services but all the lab and ancillary tests and treatments that were given. As expected, the media steered clear of further investigation along that line.

I would wager a dollar to a donut that the physician's actual fee for service today is well within the bounds of inflation.

Take care of your patients!

—Joe L. Duer, MD  
Woodward

### Licensure and CME

*To the Editor:* As a representative of the Oklahoma State Board of Medical Licensure and Supervision, I wholeheartedly agree with your editorial (August, 1995) regarding CME and competence.

(continued)

## IN MEMORIAM

### 1994

George Loren Norris, MD .....	March 27
Max A. Glaze, MD .....	April 29
Winfred Aaron Showman, MD .....	May 14
Mark Daniel Holcomb, MD .....	June 1
Carter William Mathews, MD .....	June 3
Frank Wilson Clark, MD .....	June 6
Harold Ray Sanders, MD .....	June 15
Robert Bruce Howard, MD .....	June 16
Richard Warren Loy, MD .....	July 7
John Hobson Veazey, MD .....	July 11
Wesley A. Whittlesey, MD .....	July 12
Lawrence Sevier McAlister, MD .....	July 19
Jon Meyer Chenette, MD .....	August 4
Beryl Drew Henwood, MD .....	August 14
Jess Duval Herrmann, MD .....	August 16
John Xavier Blender, MD .....	October 5
Laurene Oliver Short, MD .....	October 29
John Patrick Skelly, MD .....	November 6
Jose J. Guijarro, MD .....	November 11
Haven Winslow Mankin, MD .....	November 14
Dalton Blue McInnis, MD .....	November 26

### 1995

Robert M. Wienecke, MD .....	January 3
Mason Russell Lyons, MD .....	January 6
Wallace Byrd, MD .....	January 25
Herbert Victor Lewis Sapper, MD .....	January 26
Addison Bowling Smith, MD .....	January 31
Clifford Jennings Blair, MD .....	February 10
John Richard Danstrom, MD .....	March 5
Elmer William Taylor, MD .....	March 5
Othal Blair Cunningham, MD .....	March 14
George S. Bozalis, MD .....	March 21
William Gerald Rogers, MD .....	March 21
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Wiley T. McCollum, MD .....	May 13
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William G. Husband, Jr., MD .....	May 25
Henry Washington Harris, MD .....	June 2
Joan Kazanjian Leavitt, MD .....	June 13
Lucien Michael Paseucci, MD .....	July 2
Glen M. Floyd, MD .....	July 8
Marvin Homer Hird, MD .....	July 18
Yale Eugene Parkhurst, MD .....	July 27
Joe Leslie Duer, MD .....	August 25
William Earl Van Pelt, MD .....	August 26
William Martin Benzing, Jr., MD .....	September 2



## Letters (continued)

At the present time there does not exist a test or tests for medical competence which is economically feasible for use in screening the large number of MDs licensed in Oklahoma. And as you pointed out, no studies substantiate a positive correlation between CME and competence.

The authorization in law which would allow the board to require CME for relicensure was placed in hopes that the promise of valid competency testing (perhaps by computer generated case scenarios or other methods currently being investigated) would be achieved and corrective (versus self-directed) CME could be mandated.

As of now, neither the board nor the staff contemplates required hours of CME for relicensure. Like you, we hope each licensee will have personal and professional pride and will maintain the education essential to practice in a competent manner.

—Gerald C. Zumwalt, MD  
Medical Director

Oklahoma State Board of Medical Licensure and Supervision

## DEATHS

### William Martin Benzing, Jr., MD 1909 - 1995

OSMA Life Member William M. Benzing, Jr., MD, died September 2, 1995, in Tulsa. Dr. Benzing was born in Hamilton, Ohio, and earned his medical degree in 1937 at Rush Medical College in Chicago. He completed pathology and surgical residencies in Kansas City, and a radiology residency in Wadsworth, Kans., a few years later. Dr. Benzing served with the U.S. Army from 1942 to 1946 before returning to Hamilton to practice medicine. Settling on radiology as his specialty, he moved to Tulsa in 1951. At age 73, he was one of three Tulsa doctors named Doctor of the Year, a lifetime achievement award presented by the Tulsa County Medical Society Auxiliary.

### Joe Leslie Duer, MD 1905 - 1995

OSMA Past President ('63-'64) Joe L. Duer, MD, died August 25, 1995, in Woodward. He also helped found the Oklahoma Medical Research Foundation in Oklahoma City. Duer was born in Lenora, Okla. He began his medical practice in Viei and Taloga, after graduating from the University of Oklahoma Medical School in 1932. He moved to Woodward in 1939. Dr. Duer had a general practice there for 37 years, until his retirement in 1969. During World War II, Dr. Duer was one of the surgeons attending U.S. troops at the battle of Iwo Jima, receiving a Purple Heart for injuries he suffered at the time. Among his other activities, Dr. Duer served as a preceptor for OU medical students for 15 years. He was featured as a JOURNAL Leader in Medicine in November 1990.

### William Earl Van Pelt, MD 1925 - 1995

Tulsa general practitioner William E. Van Pelt, MD, died in that city August 26, 1995. A native of Chicago, Dr. Van Pelt was graduated from the University of Arkansas School of Medicine in 1953. He served an internship in Tulsa and established his practice there in 1956. He was a signalman in the U.S. Navy from August 1954 to June 1956.

### OSMA Board of Trustees Meetings

Sunday, October 29, 1995 — Duncan

Sunday, January 21, 1996 — Oklahoma City

Thursday, April 25, 1996 — Tulsa (OSMA Annual Meeting)

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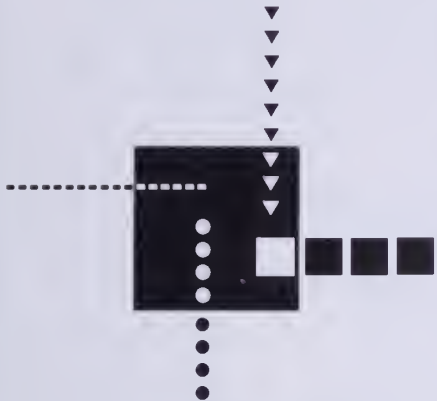
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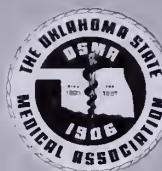
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Since the deplorable bombing of the Murrah Federal Building in Oklahoma City in April, violence and "Healing in the Heartland" have been on the minds of all America. The OSMA Alliance members are concerned with healing the epidemic of violence. The OSMAA is joining hands in a nationwide effort to "Stop America's Violence Every-

where." This program, known as SAVE, focuses on this public health issue that is encountered by every individual in our country. Violence is in our homes, in our schools, and on our streets. The OSMA Alliance membership is committed to targeting violence as its health promotion project of 1995-96.

Another concern of the OSMA Alliance is to assist physicians in legislative issues. We stand ready to deal with such issues as Medicare cuts, antitrust relief, and liability reform. Our country allows us a unique opportunity to let our voice be heard. We must seize this opportunity and allow our physicians to continue to deliver the finest healthcare in the world unobstructed by third parties or government.

The first step in this healing process is to join the Oklahoma State Medical Association Alliance. Membership is open to the spouse of any physician who is a member of the OSMA. In counties where there is no organized alliance, a spouse may join as a member-at-large. Even if you cannot be actively involved, your dues will support those who can to make a difference on the issues that concern all of us. Community health, violence, and legislation are just a few of the admirable concerns of the alliance. For membership information call Judy Lake at the OSMA offices (405) 843-9571.

Physicians and physicians' spouses... doing what they do best!

—Abby King  
OSMAA First Vice-President

## THE LAST WORD

■ **The 26th Assembly Meeting of the AMA Organized Medical Staff Section (AMA-OMSS)** will be November 30 through December 4, 1995, in Washington, DC. Attendees will gather at the Washington Hilton and Towers Hotel. This year's educational program is entitled "Creating the Future and Getting There First." For more information call 1-800-AMA-3211 and ask for the AMA's Department of Organized Medical Staff Services.

■ **Jesus E. Medina, MD, chair of the Department of Otorhinolaryngology** at the University of Oklahoma Health Sciences Center (OUHSC) in Oklahoma City, is one of only seven physicians nationwide to receive a prestigious Distinguished Service Award from the American Academy of Otorhinolaryngology-Head and Neck Surgery. He received the award in September during the academy's annual meeting in New Orleans. The award is designed to recognize members who have contributed significant time and effort in support of academy-sponsored activities.

■ **Between now and the end of the year, the OSMA Council** on Member Services will be conducting workshops on capitation in rural communities. The council will be working with Harrison Associates to conduct seminars of 1 to 3 hours each on various aspects of managed care contracts and how to calculate capitation rates. To schedule a workshop for primary care physicians in conjunction with your county medical society meeting or hospital medical staff meeting, contact Lyle Kelsey at OSMA headquarters.

■ **The former Oklahoma Foundation for Peer Review (OFPR)** is now the Oklahoma Foundation for Medical Quality (OFMQ). At meetings in September, attended by some 200 hospital QA administrators, medical record examiners, medical office managers, and physicians, the OFMQ explained its new health care quality improvement program (HCQUIP). The program uses the analysis of patterns of care and emphasizing overall processes of health care, with the objective of identifying patterns of care that can be improved through education and guidance to providers, practitioners, and consumers. The goal is measurable improvements in patient care outcomes accomplished by the medical community.

■ **To aid the OSMA Council on Public and Mental Health** in its study of the home health care industry in Oklahoma, doctors are asked to document examples of problems they have encountered with the system. The documentation should be sent to OSMA Associate Director Mike Sulzycki at 601 Northwest Expressway, Oklahoma City, OK 73118.

■ **AM News (Aug. 28) cautions doctors about paying to** participate in "wanna be" physician networks. Apparently, some entrepreneurs are attempting to capitalize on the fears of physicians who don't want to be left out of networks offering a sizeable flow of patients. Some evidence indicates that the sponsors don't have contracts with organizations that rep-

resent patients, only an inference that if such a network were available, the sponsor might be interested. This appears to be the case with Health Care Networks of America and Allied Group Network, both founded by Frederick E. Roh, EdD. According to *AM News*, 11,300 physicians have joined the two networks with little attributable patient flow. The front-page article admonishes doctors to think twice before joining entities that (1) require an up-front fee before they will provide information; (2) demand an immediate response, e.g., within 48 hours; (3) provide oral, but not written, promises of exclusivity; (4) have no history of contracting in the area; and (5) don't provide references from local physicians and payers. The entire issue has been referred to the attorney general for review.

■ **Lynn V. Mitchell, MD, director of the Division of Occupational and Environmental Medicine** in the Department of Family Medicine at the OUHSC in Oklahoma City, has been presented the Distinguished Service Award for 1995 by the Oklahoma Rehabilitation Association. The award is presented on the basis of service to the field of rehabilitation.

■ **Mark Allen Everett, MD, chair of the Department of Dermatology** at OUHSC, has been elected president of the American Dermatological Association (ADA). He was named department chair in 1970 and Regent's Professor in 1981. He also holds appointments as an adjunct professor in the Department of Anatomical Sciences and Department of Pathology and served as interim chair for the latter. Dr. Everett currently is president of the American Board of Dermatology, chair of the Residency Review Subcommittee for Dermatopathology, and past president of both the American Society for Dermopathology and the Association of Professors of Dermatology.

■ **The Oklahoma Department of Rehabilitation Services** has relocated its state office to the Landmark Tower complex at 3535 N.W. 58th Street in Oklahoma City. Their mailing address is still P.O. Box 36659, Oklahoma City, OK 73136. Telephone numbers are 405-951-3400 or 1-800-845-8476. The department provides assistance to Oklahomans with disabilities through vocational rehabilitation, education, employment, Social Security disability benefits, and independent living programs.

■ **Plans are being made to hold an Oklahoma Health Care Summit** at OSMA headquarters in early November. Representatives of all major state agencies administering health programs would attend. Both Governor Keating and DHS Secretary Ken Lackey have agreed to participate. A preliminary program plan includes a presentation by representatives of the Governor's Commission on Performance in Government, a luncheon presentation by Governor Keating, presentations by each of the agency heads, and an analysis of the impact of expected federal block grants. OSMA has agreed to provide the meeting space and lunch for the participants. J

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# JOURNAL

OKLAHOMA STATE MEDICAL ASSOCIATION  
NOVEMBER 1995



*Robert M. Smith, MD*  
Robert M. Smith, MD, Oklahoma City

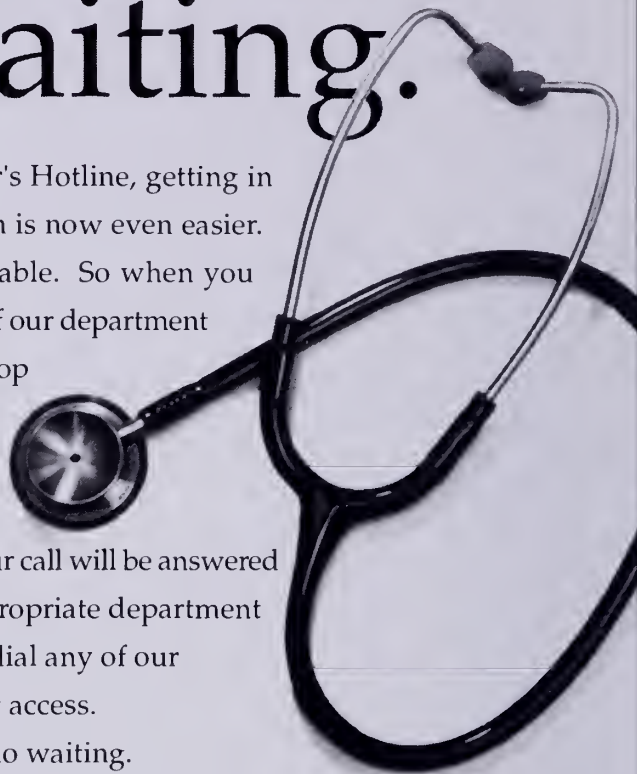
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# JOURNAL

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## ABOUT THE COVER

Robert M. Smith, MD, of Oklahoma City, used high contrast film to produce this unusual image of OKC's old 39th Street bridge at the north end of Lake Overholser. The steel girder bridge is one of the last of its kind.

Art direction by Greg Gilpin,  
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Please continue to contact the doctors  
at their current offices until our  
physical move later this year



## We Owe a Debt

"Jungle Medicine Revisited" (pg. 476) brought to mind an eight-year-old child I cared for several years ago during a similar trip to the Sierra Madre Mountains of Mexico. At the age of 18 months, he crawled into an open fire, sustaining crippling burns of a hand. With no medical services available his parents made do with crude dressings and primitive care until what remained was a scarred contracted mass. That something like this could occur in the United States is virtually unthinkable, that these afflictions occur in medically unserved areas of the world is a fact of everyday life.

Foreign aid in the form of medical care is probably the best commodity we can offer. Certainly the enthusiasm with which it is received makes it appear to be. Few of us can be

the Albert Schweitzers, Gordon Seagraves, or Tom Dooleys of today, but most of us can manage donations of talent, skill, and knowledge. For that matter, in many areas of the United States, the unserved needs are just as great as they are in distant lands.

The experiences of Dr. Edde and his colleagues illustrate all too vividly what can be seen and done simply by being available and willing. They are to be commended. The knowledge and skills we all possess were gained through hard work and sacrifice, not all of which was ours alone. We owe much to fellow members of our race and part of that debt is payable in the currency of charitable service.

—Ollie W. Dehart, MD  
Associate Editor



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## A Thanksgiving Wish

As Thanksgiving arrives and our annual holiday season begins, each of us will probably have occasion to take a good long look at the last twelve months before moving ahead into the new year.

For the OSMA it has been a particularly difficult year of soul-searching, fence-mending and, inevitably, change.



Change, unfortunately, is often difficult. Therefore, my Thanksgiving wish is that each of us be given the courage to change the things we can change, the strength to accept the things we cannot change, and the wisdom to know the difference.

A handwritten signature in cursive script that reads "Larry Long". The signature is written in dark ink and has a long, sweeping horizontal line extending to the right.

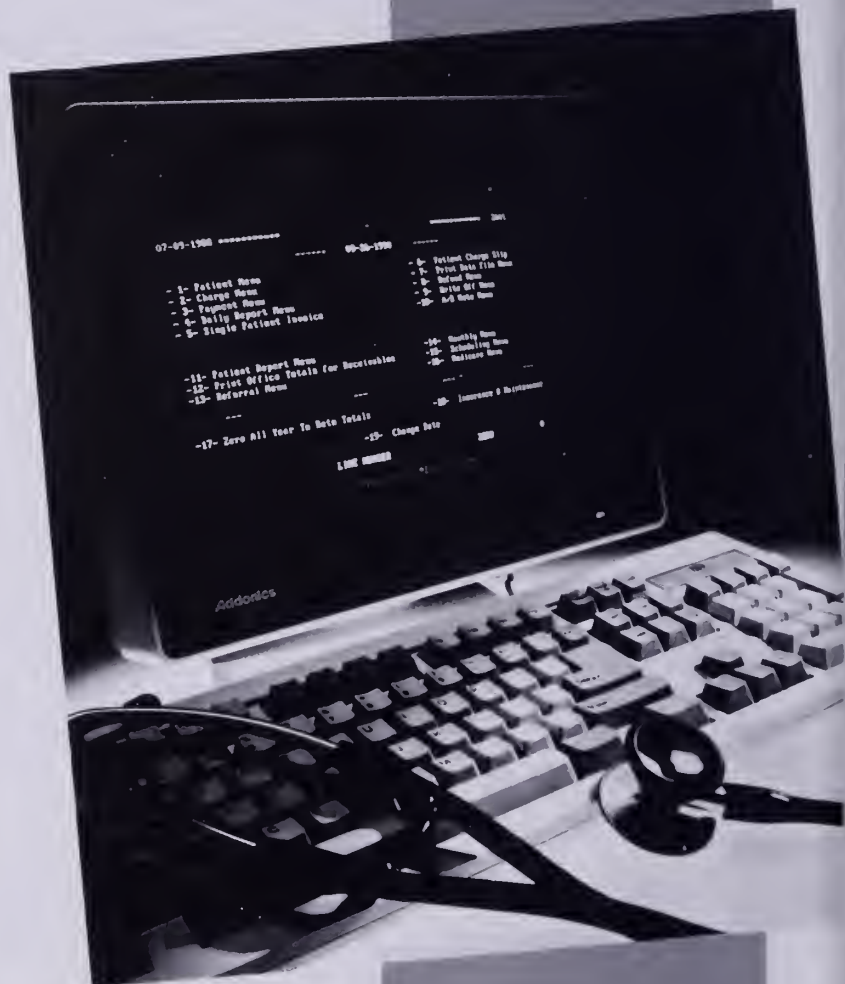
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# The Patient Needs a Doctor

Harvey J. Blumenthal, MD

In November 1993 I was elected to our hospital's Medical Executive Committee; two days later our medical director sent me Dr. Martin D. Merry's article, "Physician Leadership for the 21st Century," which appeared in *Quality Management and Health Care* 1:3, Spring 1993. While I disagree with some of Dr. Merry's assertions, I hope my comments do not reflect "the anger, pain, and conflict" Dr. Merry describes in physicians who see their autonomy and authority eroded. After all, I am now also a member of the physician leadership team, but not without misgivings that Dr. Merry heightens by his call to arms for "the emergence of a new breed of physician leaders who will preserve the best of traditional medical practice culture but also effectively implement a nascent form of integrated health care practice." This notion should alarm every individual—all of us who will ultimately one day be patients, sick people in need of a doctor.

My thesis is simple: The only reason we need physicians is to diagnose accurately and guide the patient compassionately through the

best possible treatment program. If all research were to cease tomorrow, sick people would still need a doctor. If all hospital administrators and insurance companies were gone tomorrow, sick people would still need a doctor. Even if all the hospital doors were locked tomorrow, sick people would still need doctors, although they would serve under less than ideal conditions. Even in states of social chaos and government collapse, sick people still seek out doctors. Barbara Tuchman, in her book, *A Distant Mirror*, gives a riveting account of physicians making their rounds under the ferocious bubonic plagues of 14th century Europe, and we see doctors working under trying conditions today in Bosnia. Throughout human history, sick people have turned to physicians for help in their hour of medical need. Humankind has done so because physicians are trusted to place the needs of the patient above all else, above even the doctors' own personal safety, and certainly above the desires of certain segments of society.

Now, Dr. Merry tells us we physician leaders have "the task of moving (our) colleagues toward a larger sense of purpose and a new direction for (our) profession." What larger sense of purpose? Most of us chose medicine for a variety of reasons, but the most compelling reason was the desire to bring some relief to human suffering. My wife's younger sister died last year of a malignancy, and I recently underwent lumbar discectomy. Thus, my sense of what is wanted and expected of our profession has been acutely sharpened from the perspective of becoming both patient and concerned family. I know with absolute certainty that a sick person needs neither a leader nor a manager; the patient needs a doctor.

Dr. Merry recognizes this, too. He describes how "The science and art of medicine come

I know with absolute certainty that a sick person needs neither a leader nor a manager; the patient needs a doctor.

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Direct correspondence to Harvey J. Blumenthal, MD, 312 Kelly Professional Building, 6565 South Yale Avenue, Tulsa, OK 74136-8304



The best interests of patients will not be served by increasing control of medical care by insurance companies, government bureaucrats, or HMOs.

together most dramatically when an individual physician treats a gravely ill patient. The patient in such circumstances wants the physician to be totally in charge....” But Dr. Merry quickly contradicts himself and derides this autonomy which has emerged as a “core value of physician culture.” Thereupon, Dr. Merry complains that this cultural tradition does not produce team players and he introduces the concept of “total quality management (TQM).” Quality defined by whom? Dr. Merry further asserts that “TQM challenges a medical professional culture deeply imbued with notions of hierarchal authority and the overriding importance of physicians in defining quality of care.” He recognizes these concepts as a sea change, “philosophically at odds with traditional mental modes of quality and autonomy” and suggests that development of skilled organizational leaders will help overcome these obstacles to change. Dr. Merry complains that “each physician has been trained to accept him or herself as the final authority, not someone else, even another physician” and believes that this “authoritarian approach” will create a “conflict-ridden organizational climate.” I strongly dispute this statement. Most of us realize that our diagnoses are frequently tentative, that medical treatment often involves acting in the face of uncertainty, and that consultants are often needed. Almost on a daily basis, practicing physicians are humbled enough by patients whose diagnoses remain elusive, by patients not responding to treatment despite our best efforts, and by our puny armamentarium to combat heart disease, cancer, stroke, and AIDS. If anything, clinical experience has taught most of us to be the final authority on coping with anxiety and clinical decision making in the face of uncertainty.

**D**r. Merry enthusiastically describes “pacesetter physician-leaders” and “innovators” being more desirable than those pejoratively labeled as “laggards.” Who has predetermined these “pacesetters” are correct in their direction or shown that their “innovations” will really prove to be in the best interests of the patient? I am dismayed to read Dr. Merry’s comment that “...most physicians will need to see results suggesting the advantages of the new order. They will need to experience the WIIFMs (What’s in it for me?).” Why don’t we ask if these pacesetters have considered, “What’s in it for the patient?” Dr. Merry and his pacesetter colleagues hope to “exert influence only by col-

laborating with others to create integrated value-added systems of health care delivery.” What do these words mean, exactly?

Dr. Merry concludes, “While a physician’s judgment regarding a single patient’s needs should not be directly influenced by elements not relevant to the immediate individual clinical situation, reality dictates that practicing physicians must increasingly factor in larger issues of context....” This statement should ring as an alarm bell in the night to awaken the American people. Tell our patients that while they are important, there are “larger issues” that we physicians must consider in diagnosing and treating their illnesses. Tell our patients that Dr. Merry doesn’t want to “directly influence” our judgments, but the implication is that these “larger issues” should indirectly influence the way we treat patients. I don’t believe the American public will stand for this. As a patient, I would not stand for it. Now we are engaged in a great power struggle and the American people had better learn what these organizational administrators and pacesetters have in mind for us.

**W**e cannot deny that many changes and challenges now face American physicians, but our system of medical care has evolved to become the best in the world. The best interests of patients will not be served by increasing control of medical care by insurance companies, government bureaucrats, or HMOs.

We practicing physicians already see legitimate care being delayed and denied by policies set by administrators of insurance companies and government bureaucrats who have no medical training. And the true impact of developing practice parameter guidelines for care will not be known for many years.

When I read about “a larger sense of purpose and a new direction for (our) profession” and Dr. Merry’s opinion that “practicing physicians must increasingly factor in larger issues” in their medical decision making, I must conclude that he and his pacesetter colleagues have lost their way with mistaken notions of what must be surrendered and what constitutes leadership. Has this new breed of physician leaders shifted their interests from clinical medicine to the siren call of becoming a physician administrator and political leader? The intoxicating hubris of dinner meetings, retreats, and committees can foster a sense of leadership and power.

This change in focus can be a welcome renewal for the clinician struggling with the anxieties of tending sick patients, which lead to burnout and the everyday frustrations of coping with insurance company demands, Medicare, and lawyers. However, I have observed that some of these pacesetter physicians develop a new personal agenda. They spend less time with patients and more time devoted to administrative duties and management activity. They often have lost the perspective of the soldiers in the trenches and seem to have done so happily. They become imbued with a new team spirit, and meetings and committees bring out a vitality they formerly felt helping sick patients.

Soon, the pacesetter physician learns that if he is to remain a member of the team—one who is respected, one who wields influence, and one who is embraced as a team player—embraced by others more powerful than himself such as hospital administrators and insurance company executives, the pacesetters must have similar goals. To represent the viewpoints of the patient and the practicing physician will put the pacesetter at odds with the team. Once seduced by the trappings of power along with the relief from the stresses of patient responsibility, it is easy to go along with the rest of the team. Personally, at the dinner meetings I feel none of the tension that I feel in the emergency room or in the ICU. As a patient, who would you want to see, a physician thinking about leadership and meetings,

or one who spends time away from the hospital reading the latest medical journals?

Dr. Arnold Relman, editor-in-chief emeritus of the *New England Journal of Medicine*, recently wrote, "No new system can succeed unless it encourages doctors to function as trustworthy advocates for their patients, uninfluenced by the economic interest of the owners of the plans while responsive to legitimate cost concerns." Perhaps this is the single most important sentence among the thousands upon thousands of pages written about health care reform in America. In one sentence, Dr. Relman has captured the essence of what the American people undoubtedly want, and I hope our physician leaders do not lose sight of this. However, I am not reassured when physician leaders encourage us to move on to a "larger sense of purpose" and reveal a "what's in it for me" mentality. Our new pacesetter leaders must not pay lip service to concern about the patient, while their hidden agenda is seeking the blessings of the administrators and bureaucrats by joining the team because "reality dictates that practicing physicians must increasingly factor in larger issues of context...." My reasons for joining the team will never include putting patients in any other context other than their own, individual needs.

—Harvey J. Blumenthal, MD  
Saint Francis Hospital, Tulsa  
Clinical Professor of Neurology  
Vice Head, Department of Neurology  
University of Oklahoma College of Medicine-Tulsa

"No new system can succeed unless it encourages doctors to function as trustworthy advocates for their patients,..."

—Arnold Relman, MD

## Streptococcal Necrotizing Fasciitis ("Flesh-Eating Strep Infection")

Stanley N. Schwartz, MD; Divina L. Roman, MD; Mark H. Grosserode, MD; Mark D. Rowland, MD

Streptococcal necrotizing fasciitis, popularized in the lay literature as the "flesh-eating infection" has gained great notoriety. Necrotizing fasciitis may be lethal not only due to its severity, but also because of difficulty in diagnosis during its early stages. Absence of immunity against certain streptococcal proteins increases the severity of infection. Necrotizing fasciitis may be distinguished from other streptococcal skin and soft tissue infections by clinical examination, imaging studies, and biopsy. Treatment requires a combined medical-surgical approach.

The group A beta-hemolytic streptococci may be introduced under the epidermis by minor trauma...

Streptococcal necrotizing fasciitis, also known as streptococcal gangrene and Type II necrotizing fasciitis, is probably a disease of antiquity.<sup>1</sup> The first clear reports of this illness appeared during the Civil War.<sup>2</sup> After group A beta-hemolytic streptococci (GABHS) infect the deeper subcutaneous soft tissue and invade the deep fascia, a combination of streptococcal toxins and cytokines from an exuberant host response produces necrosis of the fascia and subcutaneous fat. The resultant vascular thrombosis and ischemic gangrene of the overlying skin advances rapidly, producing a highly lethal disease.

### Case Presentation

A 43-year-old previously healthy man developed left groin pain after a basketball game. There was no history of trauma or skin abrasion. Three days

later, the groin pain increased in intensity and was accompanied by fever with chills, nausea, vomiting and diarrhea. He presented to the emergency room within 24 hours of onset of fever.

The blood pressure was 95/63, pulse 112/min., respirations 28/min. and temperature 37.1°C. Physical examination showed pharyngeal erythema and increased circumference of the left thigh without erythema. The leukocyte count was 5000 but 70% band neutrophils were present. The serum albumin was 1.4 mg/dl. A computerized tomographic scan of the left thigh showed abscesses in the pelvis, medial and lateral thigh muscle groups. Imipenem-cilastatin and tobramycin were given intravenously after blood cultures were obtained.

He was taken immediately to the operating room on day of admission. He underwent radical excision and debridement of the left iliofemoral area, posterior Kocher-Langenbeck area and the medial adductor areas. Individual muscle compartments, especially the sartorius and rectus femoris, contained cloudy serosanguinous fluid.

Blood cultures from the day of admission produced gram-positive cocci later identified as GABHS. Antibiotic treatment was changed to continuous penicillin infusion and clindamycin. The patient developed adult respiratory distress syndrome but did not require assisted ventilation. Daily irrigation and debridement were done to remove non-viable tissue. GABHS was cultured from tissue as late as the seventh hospital day. The patient also received total parenteral nutrition. A total of eight surgical debridements were done over first eleven days. He then developed a secondary

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*Pseudomonas* infection requiring two additional irrigation and debridement procedures.

During the third week, muscle flap and skin grafting were done on the left lateral and medial thigh, and the left groin. A bone scan showed increased uptake in the left femur and left iliac crest suspicious for osteomyelitis. The patient was discharged to continue home intravenous penicillin for a total of six weeks.

### Pathogenesis of Necrotizing Fasciitis

The group A beta-hemolytic streptococci (GABHS) may be introduced under the epidermis by minor trauma or may hematogenously seed an area of previous, often minor, trauma.<sup>3</sup> An M-protein elaborated by the GABHS inhibits phagocytosis of the streptococci by leukocytes.<sup>4</sup> Streptococci capable of producing severe invasive infections are commonly associated with the presence of M-proteins type 1 and type 3.<sup>5</sup> The absence of antibody against these proteins in younger people may account for the increasing incidence of necrotizing fasciitis in young, otherwise healthy patients.<sup>4</sup> Patients lacking antibody against both the M-protein and the pyrogenic exotoxin A of a virulent strain are at risk for life-threatening infections such as necrotizing fasciitis.

These virulent streptococci may elaborate several toxins including pyrogenic exotoxin A.

Exotoxin A increases the organism's ability to produce a severe infection by acting as a "super-antigen" capable of binding directly to the V $\beta$  region on the receptors of T-lymphocytes.<sup>6</sup> Such binding bypasses the usual processing of antigen and stimulates a far greater number of T-lymphocytes than a streptococcus unable to make exotoxin A. This profuse stimulation induces the production of massive amounts of tumor necrosis factor, interleukin-2,  $\gamma$ -interferon and other cytokines. Indeed, it is this proliferation of these cytokines that produces the destructive inflammatory reaction.<sup>7</sup>

Not all cases of necrotizing fasciitis are due to Group A beta-hemolytic streptococci. A polymicrobial form (so-called Type I) is caused by anaerobic bacteria, with *Bacteroides* or anaerobic streptococci acting in concert with typical gram-negative rods such as *E. coli* and *Klebsiella* spp capable of growing anaerobically.<sup>8</sup> Such cases of necrotizing fasciitis may occur after abdominal trauma, perforated viscus or perirectal infection. Fournier's scrotal gangrene is an example of type I necrotizing fasciitis.

Non-steroidal antiinflammatory drugs have been implicated in worsening the course of this illness by inhibiting granulocyte function.<sup>9,10</sup> Whether this is true is unclear.

Not all cases of necrotizing fasciitis are due to Group A beta-hemolytic streptococci.

(continued)

**Table 1. Differentiating Necrotizing Fasciitis from Cellulitis and Erysipelas**

Symptom	Necrotizing Fascitis	Streptococcal Cellulitis	Streptococcal Erysipelas
Pain	Usually severe	Often severe	Often severe
Sensation over involved area	May have reduced or absent skin sensation	Skin sensation may be increased	Usually painful to even light touch
Fever	Usually high	Often high	Usually high
Sensarium	May be altered	Usually normal unless elderly	Usually normal unless elderly
Bullae	Present, filled with yellow fluid which later becomes red-black	Usually not present	Small bullae with pale yellow fluid
Localized edema	Present	Present	Present
Color of skin	May be normal or red in early stages but then progresses to dusky	Bright red	Bright fiery red with sharply demarcated borders
Temperature of skin	May become cool as skin perfusion is lost	Hot	Hot
Crepitation	Occasionally present but uncommon	Absent	Absent

**Diagnosis of Necrotizing Fasciitis**

Early recognition of necrotizing fasciitis is the single most important factor in minimizing tissue loss and preventing death. Early in its course, necrotizing fasciitis may be difficult to distinguish from ordinary cellulitis without tissue gangrene. Table 1 presents some of the clinical findings that may be useful.

Streptococcal necrotizing fasciitis is characterized by a rapid course with severe systemic toxicity that may include delirium, hypotension, tachycardia, and tachypnea.<sup>3</sup> At presentation, however, severe toxicity may not be apparent. Patients may complain of pain that appears far out of proportion to the degree of observed skin involvement. Crepitus of the lesion is an important though very uncommon sign. Necrotic bullae are highly suggestive of necrotizing fasciitis but may be observed too late in the course to be of clinical usefulness. Bullae may also form in cases of severe erysipelas but do not become filled with the reddish or blackish fluid suggestive of tissue necrosis.

Because early recognition is so critical to outcome and definitive diagnosis can be difficult, various diagnostic strategies have been used. Gram's stain of fluid aspirated from bullae may show innumerable gram-positive cocci but often few or no polymorphonuclear leukocytes. Blood cultures are often positive in necrotizing fasciitis but rarely in streptococcal cellulitis and erysipelas.

Plain radiographs may reveal gas in the soft tissues. Such films are not very sensitive but may be useful when positive. Computerized tomographic (CT) and magnetic resonance (MR) scans may be highly beneficial in early diagnosis. Both rely on the presence of liquefaction necrosis at the facial level. Contrast-enhanced CT scans may show streaky linear densities in the soft tissues.<sup>11</sup> MR imaging may be dramatically diagnostic due to the ability of this technique to detect fluid interfaces.<sup>12</sup>

Both imaging techniques may also show involvement of the fascia well in advance of the area of clinically apparent involvement, another very characteristic sign of necrotizing fasciitis. The MR scan may be more sensitive than the CT scan and does not require the administration of intravenous iodinated contrast agents.

The most accurate diagnostic test is a surgical biopsy of the involved area. Frozen-section pathologic examination may permit an almost immediate diagnosis and allows the surgeon to do definitive surgery during the same operation.<sup>13</sup>

Rising serum levels of creatine kinase (CK) indicate irritation of underlying muscle and may presage the development of an accompanying

gangrenous streptococcal myositis. Also, streptococcal toxic shock-like syndrome characterized by shock, renal failure, adult respiratory distress syndrome, generalized scarlatiniform rash, and disseminated intravascular coagulopathy may occur in conjunction with necrotizing fasciitis.<sup>4</sup>

**Treatment of Necrotizing Fasciitis**

Early surgical consultation should be considered in any possible case of necrotizing fasciitis. In cases where the diagnosis cannot be established, reevaluation of the patient every one to two hours may be extremely helpful due to the rapid evolution of physical signs. Surgical treatment involves incision and debridement of all necrotic tissues and often extremity amputation. The surgeon must be aware that the fasciitis is usually advancing further than the cutaneous involvement would suggest. Amputation may be life-saving in certain cases but is often a difficult and agonizing surgical decision.

Antibiotic treatment is essential but rarely a substitute for surgical treatment. High dose intravenous penicillin (up to 18 million units daily) remains the drug of choice for GABHS infections. However, the presence of large numbers of bacteria in necrotizing fasciitis may reduce the efficacy of penicillin. In this infection, clindamycin may, by inhibiting exotoxin production and M-protein synthesis, be more effective than penicillin.<sup>7</sup> Also, ceftriaxone may also be more effective than penicillin.<sup>7</sup> The use of erythromycin in this life-threatening infection is discouraged due to reports of GABHS resistant to erythromycin.

**Summary**

Necrotizing fasciitis due to group A streptococci has become more common in recent years. It has become popularized in the press because of the overwhelming nature of the illness and probably also because it may affect young healthy individuals. Early recognition with prompt combined medical and surgical treatment may be life-saving.

**Acknowledgments**

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Antibiotic treatment is essential but rarely a substitute for surgical treatment.



# Information for Patients about Necrotizing Fasciitis

## ("Flesh-Eating Bacterial Infection")

### 1 WHO IS AT RISK TO DEVELOP A SEVERE STREP INFECTION?

Persons who have open wounds may contract strep infections. Also, some experts believe that persons with bruises or damaged muscles who are exposed to another person with a strep infection are also at risk.

### 2 WHY ARE WE HEARING SO MUCH ABOUT SEVERE STREP INFECTIONS LATELY?

Recently, strep germs have become more powerful than in the past and are more able to cause a severe infection.

### 3 WHAT EXACTLY ARE "FLESH-EATING BACTERIA?"

The term "flesh-eating" is actually inaccurate. The strep germs may cause an infection between the skin and the muscle below. During the infection, the arteries that supply blood to the skin are damaged, cutting off circulation to the skin. Areas of dead skin (gangrene) then develop.

### 4 HOW DO I PROTECT MYSELF AGAINST THIS INFECTION?

Fortunately, necrotizing fasciitis is quite rare. All wounds including scratches, should be cleaned carefully with plain soap and water. Antiseptic ointment and a clean bandage will help

prevent infection. Any deep wound or wound that cannot be cleaned at home should be seen by a physician.

### 5 WHAT ARE THE WARNING SIGNS OF SERIOUS SKIN INFECTIONS?

Fever, redness, swelling and pain are the major warning signs. Hard chills, confusion or disorientation, severe headache and weakness or dizziness are additional warning signs that may require immediate attention.

### 6 WHAT IS THE DIFFERENCE BETWEEN STREP AND STAPH INFECTIONS?

Strep and staph are two different types of germs. Occasionally, they are difficult to tell apart. Staph infections of the skin are more common than strep infections but may also be very serious.

### 7 HOW CAN A PHYSICIAN TELL IF I HAVE A SERIOUS STREP INFECTION?

Diagnosing strep infections usually includes a medical history and physical examination. Blood counts and cultures from open wounds and from the bloodstream may be helpful. Some patients will need X-rays or special scans as well. If the diagnosis is not clear, observation and repeated examination may be necessary.

This chart may be reproduced for distribution to patients

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## Jungle Medicine Revisited: An Oklahoma Medical Team Visits Bolivia

R. Richard Edde, MD; Jonathan Reiff

Twenty-five adventurous physicians, nurses, oral surgeons, lab technicians, and lay support persons visited the remote Bolivian village of Corroico during February, 1995. During the next week, they treated 1200 patients with maladies of all types. Intestinal parasites, failure to thrive, leishmaniasis, tuberculosis, multiple dental caries, and ear, nose and throat infections comprised the majority of the conditions treated. Over \$50,000 in medications were dispensed during the week.

We did not expect the large numbers of patients with tuberculosis and leishmaniasis.

Last year (JOURNAL, Jan 94), I described an Oklahoma medical mission project to the Mexican Yucatán. This article will relate a similar mission to Bolivia, under the sponsorship of the Pan-American Medical Mission Foundation, Inc., during January 1995.

The foundation was formed in 1994, as an outgrowth of the project described previously in this journal. It is a non-profit organization whose goal is to provide short-term medical relief, sanitation, and nutritional education to the poor peoples of Central and South America.

As our bus, driven by Ramiro, our Bolivian driver, approached the small clinic in Corroico, we were finally able to see the patients we had come to treat. A thousand of them, some from as far away as the Amazon rainforest, hundreds of miles to the east, gathered around the brick building, nestled among the green-carpeted, towering Andes. We left La Paz (elevation 13,000 ft.) in

the morning, traveled up and over the mountains, then downward seven thousand feet in forty miles, and finally arrived in Corroico, four hours later. The drive had been especially interesting, as there were no guardrails and sheer drop-offs of several thousand feet were numerous along the way.

It took a while to set up the pharmacy and organize the medicines we had brought, but we



Amir Soas, MD, examines young patient brought to clinic by mother.

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were soon trying to bring order out of chaos, and began seeing patients. Their lives, affected immensely by the lack of sanitation and potable water, along with a dependency on an agricultural lifestyle and its concomitant back-breaking labor, were plagued by disease and malnutrition.

The Oklahoma medical team consisted of John Benanzer and Teresa Bisgard, who triaged the patients; R. Richard Edde, MD; Amir Soas, MD; Nancy Kennedy, RN; and Melody Oltmann, RN, who provided family practice care; Robert Mannel, MD, gynecologist; and Paul Brown, DDS, oral

**Table 1.**  
**Numbers of Patients by Diagnosis**  
**(Patients May Have Multiple Diagnoses)**

Parasites	641
Dental Caries	166
Muscle Strain	103
Arthritis/arthralgia	74
Urinary tract infection	79
Heartburn/gastritis	54
Branchitis	50
URI	47
Anemia	42
Dermatitis (bacterial, fungal, contact)	34
Trichomonas	27
Tonsillitis	26
Malnutrition	20
Vaginitis/vaginitis	20
Ear infection (media, externa)	17
Hypertension	16
TB (severe)	15
Conjunctivitis	15
Dysmenorrhea	14
Soft tissue infections	14
Allergy	14
Pregnancy	11
Cholecystitis	11
Headache	10
Varicose veins	9
Pterygium	7
Costochondritis	6
Prostatitis	5
Estrogen def/menopause	5
Pharyngitis	5
DUB	5
Congestive heart failure	4
Acne	4
Sinusitis	4
Tinea	4
PID	3
Breast mass	3
Diabetes	3
VD	3
Cervical cancer, pelvic relaxation, pelvic pain, dizziness, hearing loss, amenorrhea, menorrhagia, diarrhea, hernia	2
Thrush, infertility, goiter, glaucoma, dehydration, nasal polyps, epilepsy, dyspareunia, tinnitus, urethritis, hydrocoele, parkinsonism, alopecia, rib fracture, vesicovaginal fistula, cardiomyopathy	1



Left. Typical example of severe case of leishmaniasis of lower leg.

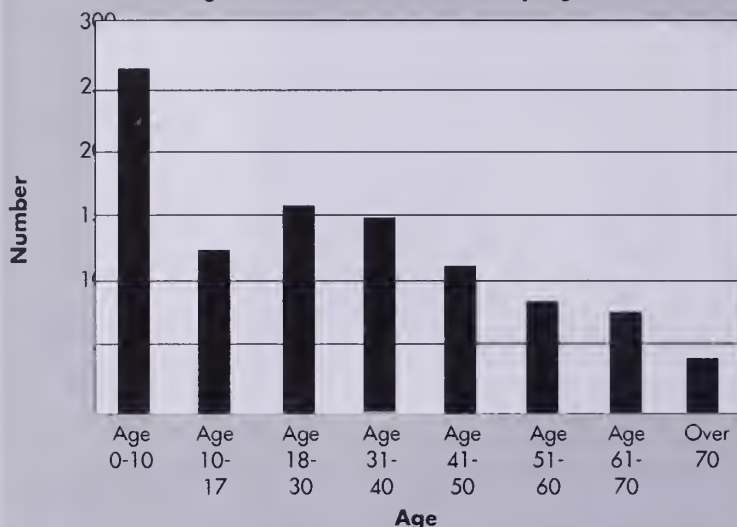
Below. Paul C. Brown, DDS, extracts a patient's tooth while being assisted by wife, Meredith.



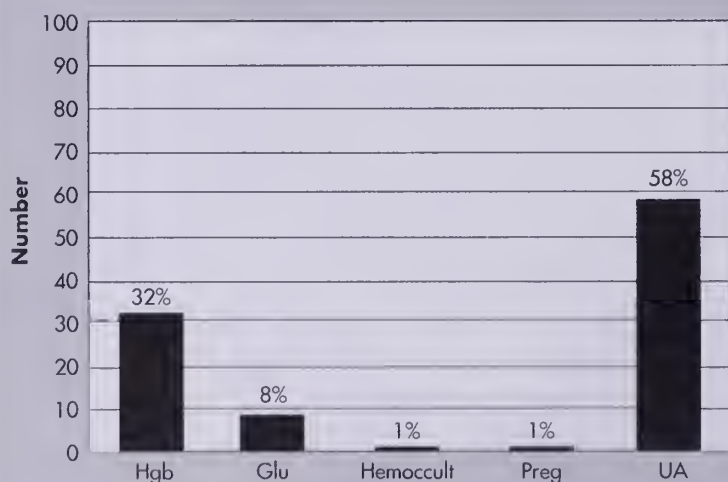
**Table 2. Amount of Medications Dispensed**

Vitamins	55,000
Ibuprofen	20,000
Amoxicillin capsules	7,500
Vermos	5,000
Antacid	2,000
Bactrim DS	1,200
Tetracycline capsules	1,000
Keflex capsules	1,000
Chlorpheniramine	1,000
Flagyl	1,000
Procardia	500
Amoxicillin liq (bottles)	275
Bacitracin oint (tubes)	60
Hydrocortisone cream (tubes)	60

**Figure 1. Number of Patients by Age**



**Figure 2. Laboratory Procedures**



surgeon, and his wife and assistant, Merideth. Rebecca Mannel, our lab technician, performed many laboratory procedures. Jonathan Reiff, Teel Hill, and John Jennings, ORT, provided our pharmacy support, while Sherry Reiff helped our project coordinator, Reverend L. Dale DePue make sure the flow of patients went smoothly.

Intestinal parasites; children sick with malnutrition; ear, nose, and throat infections; anemia; numerous gynecological complaints; arthritis; and generalized aches and pains accounted for most of the patients seen. However, we did not expect the large numbers of patients with tuberculosis and leishmaniasis. Our oral surgeon pulled more than four hundred teeth as restorative dentistry took a back seat to pain relief. Table 1 shows the numbers of patients in each diagnostic category.

Our gynecologist performed a radical hysterectomy on a patient with Stage IB cervical cancer, and several minor surgical procedures were also done.

Approximately \$50,000 in medicines were dispensed in Corroico. Table 2 shows each drug and the amount distributed. Figure 1 illustrates the age distribution of the patients seen. Our small laboratory was indispensable and Figure 2 shows the various laboratory procedures.

The friends made by this group of Oklahomans affected most of us in a profound way. The need for medical care in Bolivia is great, especially among the disenfranchised Indian population, many of whom speak only their own dialect, not Spanish, further complicating translation difficulties. But we brought joy and healing to a people who never dared hope for any type of medical care, and their smiles and tears overwhelmed and convinced us we had made the right decision in coming.

The Pan-American Medical Mission Foundation plans future medical projects to Mexico, Bolivia, and Nicaragua. Anyone interested in learning more about the foundation or participating in a mission project can contact Dr. Edde at 4400 Will Rogers Parkway, Suite 105, Oklahoma City, OK 73108, (405) 943-7162.

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#### **The Author**

R. Richard Edde, MD is an anesthesiologist in private practice in Oklahoma City, and serves on the Board of Directors of the Pan-American Medical Mission Foundation, Inc. Jonathan Reiff an Oklahoma City tax attorney, compiled the statistics for the Bolivia project.



These children suffer stress and anxiety prior to their involvement in the court process...

## Child Witnesses in Oklahoma

Betty Pfefferbaum, MD, JD; Teree E. Foster, JD

Children are often required to testify in court about physical and sexual abuse. This article examines the literature related to their testifying and reports the experiences of children who were interviewed regarding those experiences. In general, the children did not appear to be unduly traumatized by their court experiences.

**P**hysical and sexual abuse and neglect of children in our society command the attention of the medical profession. In 1991, 1.8 million allegations of child abuse and neglect, representing about 2.7 million children, were reported for investigation in the United States. Well over 800,000 cases were substantiated.<sup>1</sup> Children are now routinely called to testify about their experiences in legal proceedings. Yet, relatively little attention has been paid to the effects of such experiences. Physicians and other health care professionals often participate by evaluating and treating these children, preparing the children for court, and providing legal testimony themselves. This article reviews current statutory and case law related to child witnesses and describes the experiences of child victims who have testified in Oklahoma criminal courts.

Abuse cases may involve civil or criminal proceedings or both. Child protection proceedings are designed to protect the child, while criminal proceedings focus on the guilt or innocence

of the alleged perpetrator. A child victim has no status as a party and no guaranteed constitutional rights in criminal cases, where the presumption of innocence is in the defendant's favor. The burden of proof in a civil case is typically a preponderance of the evidence, while in a criminal case it is beyond a reasonable doubt. Child protection cases may be less traumatic for the child victims. The court may be closed, hearsay evidence is less restricted and the procedure is not adversarial, but the experience can also be very stressful.

The National Institute of Justice reviewed three major research studies examining the emotional effects of testifying on child victims of abuse.<sup>2</sup> The studies indicate that these children suffer stress and anxiety prior to their involvement in the court process, most of the children improve over time regardless of their court experiences, and maternal support is associated with improvement.

Runyan and colleagues reported the results of a prospective investigation with a follow up at five months in which 100 children, aged six to 17 years, were studied.<sup>3</sup> Study techniques included a psychiatric screening evaluation, verbal intelligence testing, and a semi-structured interview. The juvenile court experience appeared to be less traumatic than the criminal court experience. Those for whom a criminal trial had been completed fared better than those still waiting for the proceedings. The investigators concluded that testifying in juvenile court may have been beneficial for some children, but protracted criminal court proceedings had an adverse effect.

In a separate report, the investigators described



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the status of 62 victims 18 months after the initial investigation.<sup>4</sup> At 18 months, 63% of the criminal cases had been prosecuted. Factors associated with stress included judicial delays and continuances, failure to prepare the children and their support figures, lack of effective advocacy and support figures, inexperience on the part of attorneys, inadequate understanding of the capabilities of child witnesses, discomfort with the subject matter, and ineffective trial technique.

A study of criminal cases involving extra-familial perpetrators was conducted in Denver.<sup>5</sup> The researchers found that testifying in criminal court had an adverse effect on some children which appeared to diminish over time for most. Testifying more than once was associated with less improvement. No adverse effects were found related to delay in the process.

A third study examined 256 children involved in criminal proceedings in New York, Iowa, Minnesota, and California.<sup>2</sup> Testifying was less stressful for younger children than older ones. Those who testified more than once or who were exposed to lengthy or difficult cross-examination were adversely affected.

While the number of studies is small, it appears that participation in the court process need not be traumatic for children. Such experiences demand confrontation with the trauma. They conceivably provide a sense of empowerment and bring closure to an unfortunate set of events. Little is known, however, about specific aspects of the experience or what effect preparation or changes in court procedures have had.

## ■ Judicial Concerns

**Memory and Suggestibility.**—A key issue regarding child witnesses is related to their ability to remember trauma and the quality of their memories. Pynoos and Eth addressed the effect of trauma on memories in a study of children who had witnessed parental homicides.<sup>6</sup> They found these children to have vivid memories, at least for certain aspects of the event. Individuals who have been abused may recall events of the abuse long after it has ended and may recall them with such intense affect that it appears the individual is reexperiencing aspects of actual abuse.<sup>7</sup>

Suggestibility is an important related issue, especially when the witness is a child. Because of concerns about suggestibility, leading questions are not usually allowed in eliciting testimony

from witnesses. Exceptions are sometimes made for child witnesses, however, because of the need to provide support during difficult testimony and to direct the subject areas upon which the child is to testify. Data on the comparative suggestibility of children and adults are far from conclusive. Some suggest that a child's memory may be altered by post-event information brought about through the questioning and interviewing process,<sup>8</sup> and the debate about the suggestibility of children remains highly controversial.

**Competency.**—All persons who appear as witnesses must be competent to testify. Competency has traditionally been associated with age, and

in the court setting, standards are imposed on children that may far surpass those imposed on adults. Assuming competency occurs at a specific age, however, oversimplifies a complex issue because in reality, competency is a highly individual phenomenon. Under the Federal Rules of Evidence, which govern admission of evidence in the trial process, and many analogous state competency provisions, all persons are now presumed to be competent as witnesses, and the trial judge can make individualized determinations of competency for problematic witnesses, such as very young children.<sup>9</sup>

Courts increasingly permit children to testify as competent witnesses. If a judge determines that an individualized inquiry into competency is required, the child is examined in chambers to assess factors such as the child's understanding of the difference between truth and falsehoods, cognizance of the obligation to speak truthfully in the trial setting and of the gravity of the oath, mental capacity to observe and receive accurate impressions at the time of the incident on trial, memory to retain an independent recollection of the event, and ability to communicate the information remembered and to respond to simple questions concerning it.<sup>10</sup>

**Court Closure.**—Criminal defendants and the public have constitutionally protected rights to public trials. These rights are not absolute, however. In 1982, in *Globe Newspapers v. Superior Court*,<sup>11</sup> the United States Supreme Court struck a Massachusetts statute that required court closure in cases involving child sexual abuse victims. The court held that the public's constitutional right to an open trial would not be abridged absent a compelling state interest and means

While the number of studies is small, it appears that participation in the court process need not be traumatic for children.



narrowly tailored to achieve those objectives. It would, however, allow a case-by-case assessment of individual children and closure if necessary to protect a child witness. If the defendant, as opposed to the press, seeks an open court, this right is explicitly guaranteed by the Sixth Amendment, but it too is not absolute, and must be balanced against a variety of factors, such as the victim's age, desire, psychological maturity and understanding, the nature of the crime, and the interests of parents and relatives<sup>11</sup> and the necessity to protect witnesses who have been harassed or threatened with physical harm.<sup>12</sup>

**Confrontation.**—The Confrontation Clause of the Sixth Amendment of the Constitution provides the defendant the right "to be confronted with the witnesses against him,"<sup>13</sup> a right that has created great concern when children must testify. In addition to providing for a face-to-face encounter, the Confrontation Clause requires testimony under oath, a measure that emphasizes the solemnity of the occasion and provides a penalty for perjury; it forces the witness to undergo cross examination; and, it allows the jury the opportunity to observe the witness and assess his or her credibility.

With respect to the face-to-face encounter, the United States Supreme Court, in *Coy v. Iowa*,<sup>14</sup> noted the historic significance of this confrontation and supported it as critical to the truth finding aspect of legal proceedings. In *Coy*, the court examined the defendant's conviction on sexual abuse charges under an Iowa statute that allowed child victims to testify with a screen blocking their view of the defendant because of presumed trauma associated with court testimony. The court refused to decide whether there could be any exceptions to the Confrontation Clause and remanded the case for a determination of whether or not denial of confrontation represented harmless error.

In *Maryland v. Craig*,<sup>15</sup> the court explored the possibility of exceptions to the face-to-face confrontation, saying that the Confrontation Clause does not guarantee criminal defendants the "absolute right" to a face-to-face encounter with witnesses.<sup>16</sup> The court noted that a state's interest in the child victim's physical and psychological well-being may, in some cases, outweigh a defendant's right to a face-to-face encounter with the child. The court added that before the right to confrontation can be abridged, the state must dem-

onstrate necessity on an individual case-by-case basis. The emotional distress to an individual child must be more than "*de minimis*," that is, it must be so severe that the child cannot reasonably communicate.<sup>17</sup> A state's interest in protecting the child from courtroom trauma in general is not sufficiently compelling to abrogate a defendant's constitutional right to confront a witness. The state must show that the trauma is caused by the presence of the defendant. In clarifying the showing of necessity, the court did not require, however, that a trial court actually observe the child witness in the defendant's presence or explore less restricted alternatives. In *Craig*, expert testimony was used to establish the child's need for protection.

Therefore, the child need not necessarily attempt to testify in the defendant's presence, and the judge's decision may be based on recommendations from experts or other data. In sum, the Supreme Court has indicated that the Confrontation Clause entails a strong preference for face-to-face testimony, unless the trial judge makes a specific determination that testifying in the defendant's presence would cause such severe emotional distress as to preclude reasonable communication.

The Maryland statute upheld in *Craig* provided that the defendant remain in electronic communication with his or her attorney in order to

allow objections and decisions on such objections. Oklahoma criminal statute provides for the admissibility of testimony by a child 12 years of age or younger under conditions that reflect the safeguards stated in the *Craig* opinion.<sup>18</sup>

One technique employed with some regularity by pediatricians, psychiatrists, and other mental health professionals in treating abused children is use of anatomically correct dolls. The child simulates the alleged abuse by acting out the behavior through the dolls. This technique can be particularly effective when the child lacks sufficient language skills to be adequately descriptive concerning the abusive behavior. In Oklahoma, use of anatomically correct dolls has been termed demonstrative evidence, and is permitted so long as accurate in its representations and illustrative for the fact finder.<sup>19</sup>

**Hearsay.**—Hearsay is a statement or assertive conduct which was made or occurred out of court and is offered at trial to prove the truth of the facts asserted.<sup>20</sup> Hearsay statements are generally not permitted as testimony because they were not made

In Oklahoma, use of anatomically correct dolls has been termed demonstrative evidence, and is permitted...



under oath, are not subject to cross-examination, and deprive the jury of the opportunity to observe the demeanor of the declarant.

But, if all statements made out of court were excluded as hearsay, relatively little information would be available for the jury's consideration. Therefore, the Federal Rules of Evidence include a number of exceptions to the hearsay rule. Hearsay exceptions can be grouped into two categories: some exceptions apply only when the declarant—the person who made the hearsay statement—is unavailable to give testimony at trial; others apply regardless of the declarant's availability.

In situations in which the declarant is unavailable, the theory of the Evidence Rules is that the inquiry into truth will be aided by the less than perfect out-of-court evidence, so long as the hearsay is made under circumstances that assure its reliability. For example, the dying declaration exception to the hearsay rule allows the statements made by an out-of-court declarant to be used as evidence, so long as the statements were made while the declarant believed death to be imminent, and the statements concern what the declarant believed to be the cause or circumstances of the impending death. The theory justifying the reliability of dying declarations is that powerful forces—religious or psychological—operate at the moment of death, and impel the dying person's need to set things right in the world, before departing from it.

Concerning those exceptions for which availability is irrelevant, the rationale is that the circumstances surrounding the out-of-court statement assure that it is at least as reliable as in-court statements. For example, excited utterances are deemed reliable because people presumably lack rational capacity to fabricate when under the stress of extreme agitation. An excited utterance requires that the out-of-court hearsay statement be a spontaneous reaction, made before the onset of rational thought while the declarant lingered under the influence of a startling event; the substance of the statement must relate to the event.

Statements made for purposes of medical diagnosis or treatment are another hearsay exception for which the declarant's availability is irrelevant. These statements are deemed reliable because persons who seek medical attention presumably communicate as candidly and as precisely as possible with their physicians. In most cases, statements concerning medical diagnosis

or treatment that identify the perpetrator of a crime are not admitted under this exception because the perpetrator's identity is generally extraneous to the physician's diagnosis or treatment of the patient. Courts will, however, sometimes allow statements of identity in child sexual abuse cases because this information may be important to the victim's care, especially if the child suffers from a sexually transmitted disease, or if the perpetrator is a family member, a person living in the child's home, or a person with whom the child has constant contact.<sup>21</sup>

Generally, in cases involving child victims, prosecutors favor having the child testify because the child's in-court testimony communicates to the jury that something indeed occurred to the child, and because the child victim is usually a sympathetic witness. Furthermore, while jurors tend to see children as generally less credible than adults, jurors may consider a child victim more credible in a sexual abuse case, especially when the child appears confident.<sup>22</sup>

Hearsay may be especially important to the prosecutor who is attempting to prove a child sexual abuse case. Child abuse, even when reported and prosecuted, is often difficult to prove.

Generally, there are no witnesses to child sexual abuse; the child victim is the only person available to testify to the actual occurrences.<sup>23</sup> But the child victim, for developmental and psychological reasons, is often not an ideal witness. In many cases, the child is too young, too immature or too emotionally distraught to take the stand at all.

Many states have recognized this reality, and have enacted statutes designed to address the hearsay character of extrajudicial statements describing the abuse made by the victim, typically to a parent, physician or teacher. These provisions permit introduction of out-of-court statements of child abuse victims as an exception to the hearsay rule, under circumstances intended to safeguard the Confrontation Clause rights of the criminal defendant. The typical hearsay exception obliges the trial judge to find, after appropriate hearing, that the statement is reliable. The child's statements are only available under this hearsay exception if the child either testifies, and is thus subject to cross-examination, or is unavailable, in which case the content of the statement must be corroborated.

Other states have not enacted special hearsay exceptions to accommodate statements by child abuse victims, but utilize a residual, or "catch-

In many cases, the child is too young, too immature or too emotionally distraught to take the stand at all.

all," exception to the hearsay rule that allows evidence of out-of-court statements that satisfy specified criteria designed to ensure that the statements are reliable.

Under the Oklahoma statute, Title 12, Section 2803.1 and Oklahoma case law, a child's statements made to a parent, neighbor, police officer, or health care provider are admissible in a civil or juvenile hearing if the court determines that the statements are reliable provided that either the child is available to testify in the courtroom or through one-way closed circuit television or videotaped deposition, or, if the child is unavailable, there exists corroborating evidence of the abuse.<sup>24</sup>

While the civil statute regulating the admissibility of children's pre-recorded statements has not been challenged in court, the Oklahoma Court of Criminal Appeals has found a similarly worded criminal statute<sup>25</sup> unconstitutional.<sup>26</sup> Concerned about the criminal defendant's right to cross-examine witnesses against him, the court, in *Burke v. Oklahoma*, refused to allow the state to present into evidence a taped recording with potentially "one-sided questions, by an expert questioner, who could coach, lead, and gain the required result without the defendant having his Sixth Amendment right of confrontation." The statute allowing prerecorded statements did not "meet the test of *Craig*" and was found unconstitutional on its face.<sup>27</sup>

Several recent United States Supreme Court cases have analyzed the use of hearsay within the parameters of the Confrontation Clause. The court's focus has been on the question of whether the reliability guarantees specified in both types of hearsay exceptions are sufficient to protect the criminal defendant's right to confront accusers.

In *Idaho v. Wright*,<sup>28</sup> a pediatrician testified as an expert in a case involving child sexual abuse victims. The Supreme Court examined the pediatrician's testimony and noted that hearsay statements are admissible if they are among the traditional hearsay exceptions, such as excited utterances and statements made for purposes of medical diagnosis and treatment, or if they possess "indicia of reliability."

The pediatrician's interview with the child was problematic on at least three grounds: the interview was not recorded; leading questions had been asked; and the pediatrician began the interview with a preconceived idea of what the child should be disclosing. The court identified a number of fac-

tors that indicate trustworthiness: spontaneity, consistency, the child's mental state, content or terminology of a statement that is unexpected of a young child, and lack of a motive to fabricate.

Of significance to medical practice, the Supreme Court refused to mandate that particular procedural guidelines be used in professional interviews. Instead, the court stated that the critical inquiry is whether the child was likely to be telling the truth when the statement was made. In making this determination of truth, the court directed that the relevant circumstances for con-

sideration of reliability are those surrounding the making of the statement "and that render the declarant particularly worthy of belief."<sup>29</sup> Evidence that corroborates the statement, such as physical evidence of abuse, is not to be considered in determining whether the statement is reliable.

In *White v. Illinois*,<sup>30</sup> the court addressed the issue of whether the Confrontation Clause requires that the state either produce the declarant at trial or show that the declarant is unavailable before admitting hearsay testimony. The Supreme Court observed that while the Confrontation Clause and the hearsay rules protect similar interests, the unavailability analysis is

not always a necessary component of the Confrontation Clause inquiry.

The court declared that requiring unavailability as a precondition to introducing hearsay statements would not be likely to produce testimony that would add meaningfully to the truth-seeking function of the trial. A spontaneous statement made while excited, without the opportunity to reflect on the consequences of the statement, might even carry more weight with the jury than a similar statement offered in the relative tranquility of the courtroom. A statement made in the course of procuring medical treatment also entails special guarantees of trustworthiness because the declarant is aware that a false statement may lead to inappropriate diagnosis or treatment.

Certain hearsay exceptions which have been traditionally recognized are considered "firmly rooted."<sup>31</sup> Where the out-of-court declaration meets criteria for one of the traditional hearsay exceptions, it will be assumed to be reliable and, therefore, admissible. The hearsay exceptions that were utilized in this case, excited utterances and statements made in pursuit of medical diagnosis and treatment, are firmly rooted hearsay exceptions.

A statement made in the course of procuring medical treatment also entails special guarantees of trustworthiness...

The court explained that a statement that qualifies for admission under one of the firmly rooted hearsay exceptions is so trustworthy that cross-examination can be expected to add little to its reliability. The Confrontation Clause does not bar such testimony, even absent a finding of the declarant's unavailability.

### ■ Oklahoma Clinical Cases

The Oklahoma Child Abuse Study Commission identified a number of potential problems facing child witnesses in Oklahoma.<sup>32</sup> The child is often questioned repeatedly by many different people. The alleged perpetrator is generally present during the child's testimony while the child's family members are sequestered. Hearsay statements are admissible if the child either testifies or is declared unavailable as defined by strict criteria, and if the child is unavailable, there must be corroborating evidence of the alleged act.<sup>33</sup>

In order to obtain more clinical information about the experience and effects of testifying in Oklahoma criminal courts, six child victims who testified in sexual abuse cases were interviewed by one of the authors, a child psychiatrist (BP). The names of the children were provided by social service agencies in Oklahoma City and Norman, Oklahoma. Informed consent and assent were obtained. The children ranged in age from four to 16 years. Five girls and one boy comprised the sample.

Children were interviewed in the presence of a parent or guardian and/or a sibling, depending on their wishes. Two sibling pairs were interviewed as both in the pair had experienced abuse and had testified. When present, the parent or guardian invariably assisted in the interview by providing a brief history of the events resulting in the legal proceedings and answering questions that the child could not or would not answer.

A questionnaire was developed to guide the interview. The questionnaire was designed to elicit information about the investigation, the assessment of the child's competency and credibility, the constitutional right of the defendant to face and cross examine the accuser, the psychological effects of the court experience at the time of testifying, the child's support system, and any enduring psychological effects. Table 1 summarizes various aspects of the children's experiences.

In general, the children spoke to the interviewer with relative ease. The four-year-old, however, was quite active during the interview and spoke little. It is possible that her hesitation was a reflection of the fact that she did not know the interviewer and an indication that disclosing the story to new people was difficult. This child appeared in a jury trial several months after being interviewed for this study and a follow-up telephone interview revealed that she was composed and thorough when called to testify at that trial. A nine-year-old girl also had difficulty with the inter-

Table 1. Summary of Experiences

Child	Age	Sex	Preparation and Courtroom Procedures	Sequestration of Family	Open Court	Took the Stand	Oath	Problems with Memory	Confrontation Difficult
Case 1*	4	Female	Visited courtroom Victim's assistant	Yes	Yes	No	No	No	No
Case 2	8	Female	Victim's assistant	Yes	Yes	Yes	Yes	Yes	No
Case 3	16	Female	Victim's assistant	Father in courtroom	Yes	Yes	Yes	Yes	Yes
Case 4	9	Female	Victim's assistant	Father in courtroom	Yes	Yes	No	No	Yes
Case 5	8	Male	Anatomical dolls Videotape	No	Yes	Yes	No	No	Yes
Case 6	12	Female	Anatomical dolls	No	Yes	Yes	Yes	No	Yes

\*The interview of this child concerned only her testimony at a preliminary hearing.



view and asked to be excused after responding to a few questions, leaving her sister and father to provide information to the interviewer.

The children received little or no preparation for their court experiences. Some felt they knew what to expect because of shows they had seen on television. One said that he had not known what to expect and that testifying made him uncomfortable. He had seen courtroom situations on television, but he said, "it's not half the same."

Family members who would also serve as witnesses were sequestered. One older child was upset to see her father in the courtroom because she had never described the abuse to him and knew it would upset him. While she had not discussed the molestation with him prior to trial, she was able to do so after counseling. Some children disliked seeing the defendant's family members and friends in the courtroom: one saw four rows of the courtroom occupied by people she did not know; another was troubled by the numerous people "looking in the window."

All children sat in the witness chair except the four-year-old who was allowed to sit along side a victim's assistant, a woman designated to support the child. Another child was allowed to take a stuffed animal into the courtroom. All but the four-year-old child took the oath and all understood the difference between truth and lies. Videotaping was introduced in one case but did not take the place of testimony in any case. Anatomically correct dolls were used in the courtroom with two children who were siblings. The younger of the two, who had used them in preparation, had no difficulty with their use at the trial. The older, who had not used them previously, was uncomfortable.

None of the children appeared to have forgotten events of their victimization though two had been confused at times during the legal process. One child became confused during her testimony, apparently because she had "told the story so often." One expressed the feeling that, at times, maybe the abuse experience had not been "real."

The defense attorney's posture with a child may have important implications for the child and the jury. When an attorney is aggressive with a child, the jury may be unsympathetic to his or her client. In one case in this series, the defense attorney was nicer to the child during the jury trial than he had been at the preliminary hearing. He repeated questions many times, asking her what "molest" meant; she told him, and finally "got mad" and "told him even more!" The child's grand-

mother believed that if the attorney "had not pushed so much," the child would have revealed less information against the defendant.

Some of the children reported that questioning had been intimidating and difficult. When necessary, they had been able to divulge a great deal of information. One, however, never reported alleged acts of anal sodomy until after the trial had concluded. Several children cried during their testimony. For one, the preliminary hearing was more stressful than the jury trial because of treatment by the defense attorney who at one point told her to "shut up your whining." This child was also asked to produce a drawing of the perpetrator's penis during the trial. Her drawing of it erect apparently was strong evidence against the defendant. The child was so embarrassed by this, however, that she could not discuss it with the interviewer or even use the word "penis." This child had difficulty discussing other things as well. For example, she could not tell the interviewer that she had, previous to the abuse, called the perpetrator "Dad." Instead, she wrote out the word.

Several cried and one had so much difficulty that she was almost removed to chambers to testify, but since the defendant would have been in chambers too, she decided to testify in the courtroom. This child, however, appeared to have been seriously traumatized by the abuse and by the psychological loss of her mother who accused the child and her sister of fabricating their reports. Therefore, her difficulty in the courtroom was as likely a reflection of the overall trauma associated with the abuse and its aftermath as of the court experience itself. Her reaction is consistent with research indicating the importance of maternal support.

Most of the children identified confronting the alleged perpetrator in the courtroom as stressful. One older child saw the perpetrator as she entered the courtroom. He smiled at her "to make it look like [she] was on his side." He "was looking at [her] like 'Why'd you do this?'" It was more than looking at the defendant that upset two of the children, who reasoned that even if they had not been required to look at him, he would "still have been there." One of the children reported that he coped by "squinting" his eyes and turning his head when requested to point to the perpetrator.

Several children appeared to have coped well with the abuse, talking about it openly and denying current concerns. Of course, they may have simply been in a state of denial. Parental figures and supportive attorneys were identified as help-

Most of the children identified confronting the alleged perpetrator in the courtroom as stressful.

It is not always possible to know at the time of disclosure whether a child will suffer psychological distress later...

ful individuals. It should be noted that this sample included two sibling pairs. The children were not asked, nor did they volunteer information regarding the effects of the sibling relationship on their experiences. It is possible, even likely, that the sibling relationship changes the dynamics of the experience through various mechanisms. For example, siblings are apt to provide support to one another or arouse guilt if one feels he or she should have protected the other.

Some of the children and their families expressed concern about the inadequacies of the judicial system complaining about short sentences and ineffective restraining orders. Others felt more secure. When asked what advice should be given to other children who anticipate testifying, one older child said to "tell them 'Everything will be okay. He can't touch you. You're out in ten to 15 minutes. After you're done, he won't be allowed to see you again. He can't ever see you.'"

## Conclusions and Limitations

These six children handled their courtroom experiences well. There were few problems with memory, and based on convictions, all were apparently credible. While the children testified successfully, they experienced difficulties in several areas. Most were distressed to see the defendant in the courtroom. Some of them, especially the younger ones, did not want to, and indeed would not, discuss certain aspects of the trial, refusing to say certain words or simply ignoring a question altogether. One child questioned whether the abuse had been "real."

For the most part, the children did not appear to have been unduly traumatized by their court experiences. One seemed quite troubled, but this child's relationship with her mother changed as a result of the abuse and legal proceedings because the mother sided with the perpetrator rather than her own daughters. It is not always possible to know at the time of disclosure whether a child will suffer psychological distress later be-

cause certain developmental stages are "triggers" for later problems.<sup>7</sup> Therefore, no conclusions are offered about potential long term adaptation. J

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## OPN growth forces limitation on membership

The Board of Directors of Oklahoma Physicians Network - IPA, Inc. (OPN) at its October 7, 1995, meeting, amended the corporation's bylaws to restrict the admission of new members. Previously, membership in the IPA's panel had been available to any physician who satisfied the credentialing and membership requirements.

Stock sales in OPN's affiliated HMO, PROklahoma Care, Inc., have successfully raised sufficient capital to begin delivering medical services in those areas where PROklahoma has been granted an operational license. "Consequently, we will add physicians to OPN on an as-needed basis," said Dr. Jay Gregory,

Muskogee, chairman of OPN's Board of Directors. "Where we have a need, we intend to fill it. In market areas where we have enough physicians to deliver comprehensive, quality medical care, it is doubtful we will or can add any more members."

The new bylaw amendment recognizes the limitations imposed by antitrust laws. According to John Fischer of Andrews, Davis, Legg, Bixler, Milsten and Price, legal counsel to OPN, "This IPA and its directors have been very sensitive to the requirements of the antitrust laws and have taken numerous steps to ensure that they are in compliance. Unless admission of new OPN members is clearly

permissible under applicable antitrust principles, OPN has taken the position it will decline admission."

Generally, non-exclusive physician networks like OPN are limited to 30% of the physicians practicing in each specialty in each market area. OPN does not yet include 30% of the physicians in each specialty in every market.

According to the Oklahoma State Department of Health, the OPN network is sufficient to enable PROklahoma to operate on a statewide basis. To date, PROklahoma has been licensed to service more areas than any other HMO in the state. Additional service areas are being authorized by the department on a regular basis. J

## HEALTH DEPARTMENT

### Risk of lead poisoning not limited to America's older inner cities

The percentage of Oklahoma's children who have elevated blood lead levels closely mirrors the national average. Nationally, 10% of children tested have a blood level  $\geq 10$   $\mu\text{g/dL}$ , while 12 % of the Oklahoma children tested have blood lead levels equal to or exceeding that level. However, only 4% of Oklahoma children between the ages of 6 months and 6 years have been screened for blood levels.

A new effort, called the Childhood Lead Poisoning Prevention Program, will allow more of the children to be tested for lead blood levels in the near future. In July of 1995 this program went into effect and, hopefully, it will enable the health department to determine the extent of lead poison in our children and begin the important task of preventing childhood lead poisoning.

Many Oklahomans associate lead poisoning with the East Coast and poverty-stricken inner cities in that area. Surprisingly, the Department of Housing and Urban Development (HUD) estimates that 72% of Oklahoma's housing stock con-

tains lead-based paint. Not only is old peeling paint a problem in these homes, but when a well-intentioned family begins the remodeling process, it may actually increase the exposure to lead for everyone in the household.

Several other factors make Oklahoma's situation unique. During the post-WWII period, our state was the number one producer of zinc and lead in the nation, and extensive mining was also common in the northeast portion of Oklahoma. Our state also contains twelve Superfund sites as designated by the Environmental Protection Agency. In addition to these Superfund sites that may produce lead-containing waste, Oklahoma also has 108 facilities that currently generate lead-containing hazardous wastes.

When all of these factors are considered, one can see that the potential for lead exposure does exist in Oklahoma. It is important to recognize, however, that even though the comfort and convenience of our life-style may depend on lead, our life itself does not. Lead plays no physiologic role in the human body. Lead sources, the pathway through which it enters





## CAPSULES

■ Palmetto Government Benefits Administrators (Blue Cross/Blue Shield of South Carolina) assumed regional home health and hospice responsibilities for Oklahoma, Texas, Arkansas, Louisiana, and New Mexico, effective October 1, 1995. BC/BS of Texas, dba Trailblazers Health Enterprises, Inc., has been selected by the Health Care Financing Administration (HCFA) as the subcontractor for Medicare Part A claims in Colorado and New Mexico. They also assume responsibility for the rural health clinic work in the 11 states that make up the Dallas and Denver regions.

■ The National Heart, Lung and Blood Institute has issued a clinical alert about diabetes. Patients with either Type I or Type II diabetes who are being treated with oral hypoglycemic agents or insulin and have multivessel coronary artery disease, have a markedly lower death rate when a first revascularization is done with coronary artery bypass graft surgery than with percutaneous transluminal coronary angioplasty. The findings come from an 18-center international randomized trial which followed 1,829 patients for a minimum of 7 years. Reports are available through the NHLBI Information Center, (301) 251-1222.

## Lead poisoning (continued)

children's bodies, and its effects on their brains are no longer a mystery. Because the symptoms of elevated blood lead levels in children are often subtle (i.e., lethargy, irritability, anemia, stomach ache) and mimic a number of other childhood problems, the only way to determine if a child has an elevated lead level is to do a simple blood lead test. Not everyone is at the same level of risk for lead exposure. This is where the lead risk assessment questionnaire can be a useful tool. Asking the assessment questions can quickly help determine whether a blood lead test might be necessary, although Medicaid guidelines require all children to have a blood lead level drawn at 12 and 24 months of age.

There remain many missing links in our knowledge about this ubiquitous toxic element. However, it is important to remember that lead poisoning in children is preventable. The dispersion of lead in our environment is man-made and is controllable. Oklahoma has the opportunity to create a day when parents do not have to be concerned about childhood lead poisoning, and can create a day when the emphasis of health care delivery system is on preventive rather than curative medicine. This day will not come tomorrow, nor can we expect it to occur next year, but unless we all move forward with a commitment, this day will never come.

J



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## Thanksgiving for Heroes

Six months have passed, and the litany still runs through our heads: 9:02 a.m. April 19, 1995. One truck. One bomb. Two John Does. One hundred sixty-nine dead, 19 of them children. Hundreds of injured. Thousands of rescuers. Millions in aid.

And the unforgettable images: Smoke drifting slowly away to reveal a gaping black maw where the Murrah Federal Building used to be. A maw still dripping with rebar and wiring, duct work and concrete. Surely no one could leave that hell alive... yet miraculously, hundreds would. Surely some would never be found... yet every one was.

Rescuers were on the scene before the smoke cleared, before the concrete and steel stopped falling. And for days they came; from across the nation they came. And they toiled and they bled and they cried. Long shifts; gruesome, exhausting shifts. Police, firefighters, urban rescue specialists, construction bosses, steel workers, elevator and crane operators, working in concert. There were no strangers there in the bowels of the Pit and the Cave, no strangers providing them with food, lodging, dry clothes, back rubs and hugs. They were family—brothers and sisters coming together in a time of tragedy. They were there for each other, for the dead and injured, for the grieving, for all of us—as we were there for them.

We will remember. We will forever remember what happened here and what they did for us. Fate alone chose one visual metaphor: firefighter Chris Fields cradling one-year-old Baylee Almon in his arms. Fate alone decreed that this man and this child should share an instant before a camera and be forever engraved in the hearts of America, symbol of the rescuer and the rescued. They and that moment belong now to history.

Today the remains of the Murrah Building have been razed. The rubble has been hauled away. The site has been cleared and a memorial of some kind will be erected there. But memories are not so easily swept aside. Nor should they be. Time decides which of them remain with us, and which fade. And for each of us, they will be different.

Blue ribbons have a new meaning now, as do teddy bears and fire engines, police cars and ambulances. Yellow Ryder trucks draw a second and third look. Headlights during the day bring a tear to the eye. Flags at half staff give pause, as they should.

I will never forget how quickly the medical community mobilized, and how well. Nor how they waited in vain for the anticipated—and prayed for—“second wave” of survivors that never came. Our doctors looked Death in the eye many times that day. And many times. Death blinked first.

Defying death. Isn't that what heroes do? Isn't that what “our guys” do? If that doesn't make them heroes, what does? Selflessly, they give everything they've got... and then give a little bit more. Isn't that what all the rescuers did, or were prepared to do? To a man, they'll say they

## IN MEMORIAM

### 1994

Carter William Mathews, MD .....	June 3
Frank Wilson Clark, MD .....	June 6
Harold Ray Sanders, MD .....	June 15
Robert Bruce Howard, MD .....	June 16
Richard Warren Loy, MD .....	July 7
John Hobson Veazey, MD .....	July 11
Wesley A. Whittlesey, MD .....	July 12
Lawrence Sevier McAlister, MD .....	July 19
Jon Meyer Chenette, MD .....	August 4
Beryl Drew Henwood, MD .....	August 14
Jess Duval Herrmann, MD .....	August 16
John Xavier Blender, MD .....	October 5
Laurence Oliver Short, MD .....	October 29
John Patrick Skelly, MD .....	November 6
Jose J. Guijarro, MD .....	November 11
Haven Winslow Mankin, MD .....	November 14
Dalton Blue McInnis, MD .....	November 26

### 1995

Robert M. Wienecke, MD .....	January 3
Mason Russell Lyons, MD .....	January 6
Wallace Byrd, MD .....	January 25
Herbert Victor Lewis Sapper, MD .....	January 26
Addison Bowling Smith, MD .....	January 31
Clifford Jennings Blair, MD .....	February 10
John Richard Danstrom, MD .....	March 5
Elmer William Taylor, MD .....	March 5
Othal Blair Cunningham, MD .....	March 14
George S. Bozalis, MD .....	March 21
William Gerald Rogers, MD .....	March 21
Charles Wesley Letcher, MD .....	March 26
John Frederick Bolene, MD .....	March 27
John B. Miles, MD .....	March 31
Elvus Jene Allgood, MD .....	May 6
Wiley T. McCollum, MD .....	May 13
Gerald Leon Honick, MD .....	May 24
William G. Husband, Jr., MD .....	May 25
Henry Washington Harris, MD .....	June 2
Joan Kazanjian Leavitt, MD .....	June 13
Lucien Michael Pascucci, MD .....	July 2
Glen M. Floyd, MD .....	July 8
Marvin Homer Hird, MD .....	July 18
Yale Eugene Parkhurst, MD .....	July 27
Joe Leslie Duer, MD .....	August 25
William Earl Van Pelt, MD .....	August 26
William Martin Benzing, Jr., MD .....	September 2
Thomas Lee Moffeit, MD .....	September 19
Avery Bruce Wight, MD .....	September 21
Malcolm Millison, MD .....	October 8
George Newton Barry, Sr., MD .....	October 16



were just doing their jobs. They'll deny being heroes. But that designation is not theirs to bestow, that decision not theirs to make. It's ours.

Sure. They were just doing their jobs.

That's precisely what ordinary everyday heroes do.

*In this our season for giving thanks, we thank you, our heroes everywhere, and your families and loved ones who so generously shared you with us. Thank you for making this a very special Thanksgiving.*

—SFR

## DEATHS

### **George Newton Barry, Sr., MD** **1900 - 1995**

OSMA Life Member George N. Barry, Sr., MD, a native of Jefferson County, Mo., and 1930 graduate of Washington University School of Medicine (St. Louis), died October 16, 1995, in Oklahoma City. He finished his postgraduate training at Massachusetts General Hospital in Boston. Dr. Barry was a World War II Navy veteran and had a cardiology practice in Oklahoma City until his retirement in 1980.

### **Thomas Lee Moffeit, MD** **1931 - 1995**

Thomas L. Moffeit, MD, a native of Hillsboro, Tex., and member of the University of Oklahoma College of Medicine Class of '66, died September 19, 1995. He completed his internship in Oklahoma City before establishing a family practice in Holdenville. Later he practiced in Arkansas and Texas before returning to Oklahoma City in 1985.

### **Malcolm Mollison, MD** **1922 - 1955**

Faribault, Minn., native Malcolm Mollison, MD, a 1946 graduate of the University of Oklahoma School of Medicine, died October 8, 1995. He completed one-year residencies in both surgery and radiology while serving in the U.S. Army. In 1949, he moved to Altus and established a practice in anesthesiology and general practice. At one time he was an OSMA delegate, and in 1958 he became a member of the teaching staff at the University of Oklahoma Health Sciences Center, where he was a preceptor for senior students. Dr. Mollison also was a county medical examiner for the state health department. He retired from practice in 1979 and was named an OSMA Life Member in 1987.

### **Avery Bruce Wight, MD** **1916 - 1995**

OSMA Life Member Avery B. Wight, MD, longtime Enid physician, died September 21, 1995, in Enid. Dr. Wight was born in Cashion and the family moved to Enid in 1927. He earned his medical degree from the University of Creighton in Omaha, Neb., in 1940. In World War II he was stationed at U.S. Marine hospitals in New Orleans, Seattle, and Detroit, and saw service on the *USS Mohawk*. He was discharged from the service in 1946 with the rank of lieutenant commander. Dr. Wight returned to Enid after the war and was instrumental in establishing a public health agency in Garfield County. The Rempel-Wight public health building bears his name.

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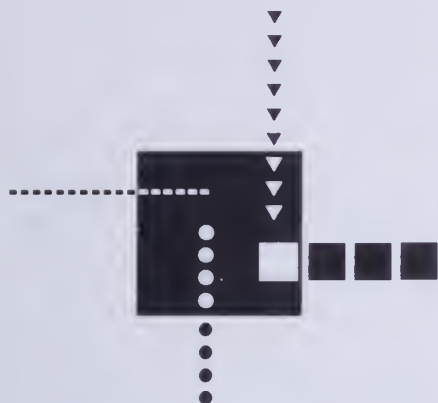
# Organized Medical Staff Section

## Twenty Sixth Assembly Meeting

November 30–December 4, 1995

Washington Hilton and Towers Hotel

Washington, DC



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- How to reengineer and improve medical staff functions and processes;
- The attributes of a successful self-governing physician organization (PO);
- The components of governance and resources needed to develop a community-based PO;
- What criteria should be utilized in making partnering decisions; and
- How to manage risk, respond to legal and logistical challenges, and raise capital.

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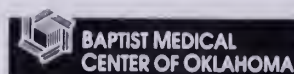
*Our **adult hepatology** division of the Oklahoma Transplantation Institute at Baptist Medical Center consists of two senior hepatologists with quality credentials, Robert McFadden, MD and Harlan Wright, MD. Ahmet Gurakar, MD. is our 3rd member. The **pediatric hepatology** division is headed by R. Torres-Pinedo, MD.*

**Dr. R. Torres-Pinedo:**

*Dr. Torres-Pinedo obtained his MD degree from the University of Madrid and trained in pediatric gastroenterology under an NIH fellowship at the Michael Reese Hospital in Chicago, Illinois. He is certified by the American Board of Pediatrics and the sub-board of Pediatric Gastroenterology and Nutrition. Dr. Torres has had a distinguished career in pediatric academics. He moved to Oklahoma as Professor of Pediatrics at the University of Oklahoma Health Sciences Center where he was chief of the Division of Pediatric Gastroenterology and Hepatology. Dr. Torres has been a member of several important national committees related to the field of Pediatric Gastroenterology and Nutrition, including the General Clinical Research Center Committee of the National Institute of Health, the Research Centers for Minorities Institution Program, the Committee on Food Programs for Developing Countries of the United States Department of Agriculture, the Committee of the Office of Scientific Integrity at the National Institute of Health, as well as many other ad hoc committees of the NIH and The Department of Agriculture. Dr. Torres has published extensively and is well known nationally for his research in Pediatric Gastroenterology. After moving to Baptist Medical Center, he began collaboration with the Oklahoma Transplantation Institute to help establish a program in Pediatric Hepatology and Pediatric Liver Transplantation. He is currently Director of Pediatric Gastroenterology and Hepatology and Chairman of the Pediatric Liver Transplant Committee at the Oklahoma Transplantation Institute at Baptist Medical Center of Oklahoma. Telephone: (405) 945-4330 FAX: (405) 945-4530*

**Dr. Harlan Wright:**

*Dr. Wright is a gastroenterologist and hepatologist trained in one of the best medical schools in Venezuela and served as a professor of internal medicine-gastroenterology at that institution for five years. In addition, he worked eight months with Dr. Sleisenger in San Francisco in small bowel research. Dr. Wright is also the recipient of the Olympus prize for distinguished gastroenterologists which entitled him to further training in endoscopy at Toho University in Japan. He located to the Oklahoma Transplantation Institute at Baptist Medical Center about 3 years ago. He served for 3 years as a Fellow in transplant hepatology at the University of Pittsburgh. He is a bright and talented clinician and endoscopist and his contributions to the*



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*clinical success of the program at the University of Pittsburgh and at the Oklahoma Transplantation Institute are well recorded. In addition, Dr. Wright has been instrumental in the development of small bowel transplantation as a clinical treatment modality. His wealth of knowledge in that facet of transplantation makes him an indispensable member of any team who wants to initiate this new and widening area of clinical, scientific research and treatment. Dr. Wright serves as interim chief of adult hepatology.*  
Telephone: (405) 949-3349 FAX: (405) 945-5467

***Dr. Robert McFadden:***

*Dr. McFadden joined the Liver Division of the Oklahoma Transplantation Institute in 1992 as a Clinical Hepatologist. He attended medical school at the University of Texas Medical Branch in Galveston, Texas. He studied gastroenterology at the University of Alabama and completed his hepatology training at the Center for Liver Diseases in Miami, Florida. His clinical experience in hepatology includes 3 years at the Houston Diagnostic Clinic and 5 years at the Oklahoma City Clinic. His interests include diseases of the liver and biliary system. This has led to considerable experience in treating patients with liver diseases. He has been instrumental in developing the Hepatology Program at the Oklahoma Transplantation Institute at Baptist Medical Center. Significant statewide referrals are part of the Oklahoma Transplantation Institute due to his energies and expertise in hepatology. Clinical activities include using anti-viral agents in the treatment of viral hepatitis. Dr. McFadden holds a Clinical Associate Professorship at the University of Oklahoma Health Sciences Center and lectures to medical students and house staff.*  
Telephone: (405) 945-4375 FAX: (405) 945-4373.

***Dr. Ahmet Gurakar:***

*Dr. Ahmet Gurakar graduated from the University of Pittsburgh Liver Transplantation Medicine/Hepatology program in 1993 where he was involved in the pre and post transplant care of many liver and small bowel transplant patients. After completion of his gastroenterology fellowship at the University of Texas Medical Branch at Galveston in August, 1994, he joined the staff of the Transplant Medicine division of the Oklahoma Transplantation Institute as staff transplant hepatologist. His field of interest is in the management of hepatitis B and hepatitis C patients both in the pre and post transplant period. He has authored and co-authored many publications in this field as well as in other aspects of transplantation hepatology.*  
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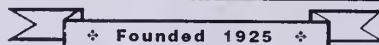
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## Prescription for Success: *Involvement!*

November 1995 is here... and it seems almost slow. There's no election this month... the state legislature doesn't convene until February so we don't have to look on a daily basis to see what they're "doing" to medicine. On the Hill in Washington, the Medicare debates are in full swing; and while we must be involved in those debates, it's the time of year when medicine can almost take a breather.

But think what a year can do. By this time next year, we will have elected a new (or old) president, six Oklahoma Congressmen, and one U.S. Senator from Oklahoma, in addition to numerous state legislators. One more opportunity is approaching to be instrumental in electing those people who are friendly to medicine... who are willing to listen to what we have to say. Or one more time, the opportunity presents itself for one of our own to run for office. Is that something that you've thought about?

Well, working in campaigns or running for office yourself are just two of the schools available to AMPAC/OMPAC members. The Campaign Manager's School is newly revamped to provide you with the information that will make you effective in working for the candidate of your choice... either as an integral part of the campaign staff or as an advisor to the campaign. Your understanding of a campaign from start to finish will be complete after your completion of this school. Should you have any interest, let me know or contact the OSMA for more information on the March 1996 school.

And do you have any interest in running for office yourself? Would you believe that we had hundreds of physicians and spouses running for elective office in 1994, and the projection is that even more will run in 1996! AMPAC's newest school is Medicine's Candidate, which is specifically geared to physicians and spouses running for elective office. This school will provide you with the tools for running an effective campaign; in fact, Congressman Greg Ganske—an MD from Iowa who won in 1994—totally credits this school with making his campaign a win-

ning one. So think about it... and if you are interested, it's there for you. These schools are recognized nationally and by the political experts as being the best there are.

But whether you choose to attend school or not, it's imperative that you choose to be involved in the 1996 races. Do your research, interview the candidates, choose the ones you want to support with your time and money, and get involved. Involvement is the only way to make a difference.

And before and during those campaigns, you must be active in supplying lawmakers both here and in Washington with you expertise on issues. Who better than you can provide the correct information with regard to medicine? No one!! We have lobbyists both here and in Washington... and they can work hard on our behalf... they *do* work hard on our behalf... but we, the constituents, have got to be involved, too. We must make the phone calls, and the visits, and write the letters when we are asked... you can't expect anyone else to do it for you... it has to be you. And time is often of the essence... sometimes votes can be changed in hours... so understand when you are asked to make a quick phone call to your legislator... it may be the very one which changes a lawmaker's mind. Nationally, when tort reform was a part of the professional liability bill being considered in Congress this spring, it was the thousands of contacts made by physicians and spouses across the Federation who helped pass that bill in the House. And we must continue in our efforts to get it through the Senate this fall.

Locally, we again will be faced with the non-physician groups wanting physician privileges when our state legislature gears up in February. Be ready to act. Warm up your faxes. And let those lawmakers know medicine can be as aggressive as the next group when legislation affecting health care is pending. Continued quality in Oklahoma health care is counting on you to be involved. And I know you will!

—Sherry S. Strebel

## THE LAST WORD

■ **The 26th Assembly Meeting of the AMA Organized Medical Staff Section (AMA-OMSS)** will be November 30 through December 4, 1995, in Washington, DC. Attendees will gather at the Washington Hilton and Towers Hotel. This year's educational program is entitled "Creating the Future and Getting There First." For more information call 1-800-AMA-3211 and ask for the AMA's Department of Organized Medical Staff Services.

■ **Integris Health is the new name of the Oklahoma Health System**, commonly known as the Baptist Group. Press reports indicate Integris has grown to a network of some 13 hospitals and 1,700 physicians statewide.

■ **The American Medical Association has established a hotline** to keep members up to date on the Medicare reform debate in Congress. The message, which includes action alerts, will be changed daily. The number is 1-800-833-6354.

■ **E-mail can now be sent to the Oklahoma State Medical Association** at [osma@ionet.net](mailto:osma@ionet.net).

■ **Lori Hansen-Lane, an Oklahoma City facial plastic surgeon**, has been selected to receive the 1995 Community Service Award from the American Academy of Facial Plastic and Reconstructive Surgery. Dr. Hansen-Lane was chosen because of her instrumental role in the joining of forces between the academy and the National Coalition Against Domestic Violence. Her efforts have resulted in free reconstructive surgical treatment being available to victims of domestic violence as a part of their recovery.

■ **John R. Alexander, MD, Tulsa internist**, has been named president of the Oklahoma State Board of Medical Licensure and Supervision. Jack D. Fetzer, MD, family physician from Woodward, is vice president, and Frederick D. Cason, MD, Oklahoma City surgeon, is a new appointee to the board.

■ **Oklahoma's Advance Directive to Physicians changes** this month to allow individuals to indicate if they wish to be organ donors. The (1) updated forms, (2) explanatory pamphlets, and (3) wallet cards indicating the bearer wishes to be an organ donor, may be ordered at no charge from the OSMA. Indicate which of the three items you want, and how many, and include your name, mailing address, and phone number.

Advance directives completed through October 31, 1995, will be considered valid, but the new forms must be used after that date.

■ **John R. Houck, Jr., MD, associate professor of otorhinolaryngology** at the University of Oklahoma Health Sciences Center in Oklahoma City, has been presented an Honor Award from the American Academy of Otolaryngology-Head and

Neck Surgery. Bestowed since 1934, the awards recognize those members who have voluntarily contributed significant time and effort in support of academy-sponsored activities.

■ **The Oklahoma State Medical Association has been** reaccredited by the Accreditation Council for Continuing Medical Education for a 3-year term to act as accreditor of intrastate providers of continuing medical education. Roger E. Sheldon, MD, chairs the OSMA Council on Continuing Medical Education.

■ **Free copies of the flyers *What You Should Know About Stroke Prevention, Recovering After a Stroke, and Stroke Prevention: Recommendations*** are available from the Agency for Health Care Policy and Research (AHCPR) Publications Clearinghouse, P.O. Box 8547, Silver Spring, MD 20907, or 1-800-358-9295 (24 hours a day). They are also available from AHCPT InstantFAX, (301) 594-2800.

■ **Governor Frank Keating has appointed Gary Massad, MD, and John C. Leatherman, MD, to the Physician Advisory Committee on Workers' Compensation.** The committee advises workers' comp court judges on the medical aspects of the workers' comp system. Dr. Massad practices occupational and sports medicine in Oklahoma City and Dr. Leatherman is a family physician in Woodward.

■ **Mark A. Hayes, MD, Tulsa orthopedic surgeon is chair** of the advisory committee and Fred M. Ruefer, MD, Muskogee orthopedic surgeon, serves on the board.

■ **Glen E. Diacon, MD, Ada urologist, and E. Lee Taylor, MD, Muskogee**, have been appointed to the Oklahoma State Board of Health. Dr. Diacon succeeds OSMA Past President Orange M. Welborn, MD, and Dr. Taylor replaces Burdge F. Green, MD.

■ **Patrick A. McKee, George Lynn Cross Professor at the University of Oklahoma College of Medicine**, has been named to fill the college's Laureate Chair of Molecular Medicine and to serve as director of its Warren Medical Research Institute.

■ **Edward R. Munnell, MD, retired Oklahoma City surgeon**, has been appointed to the Commission on Human Services.

■ **The Oklahoma Workers' Compensation Court is now** accepting orders for the Schedule of Medical Fees which becomes effective on January 1, 1996. The cost is \$27 (\$25 plus \$2 shipping and handling) per book. Make checks payable to the Workers' Compensation Court, 1915 North Stiles Avenue, Oklahoma City, OK 73104-4918. J

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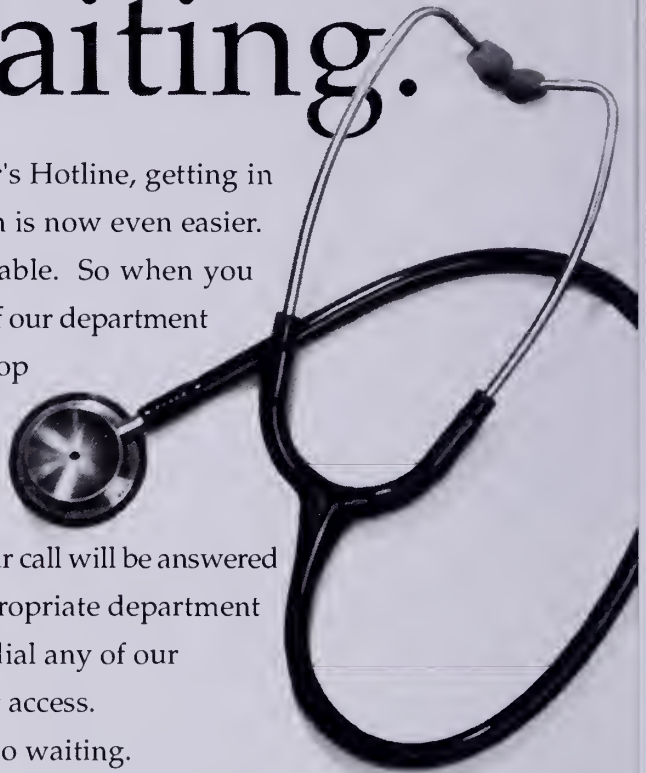
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# JOURNAL

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## Unhappy Birthday

The Medicare program had its thirtieth birthday in 1995, and after thirty years of existence, most of the people of the United States now know it is a flawed program. Medicare has a huge overhead, hinders medical progress, perturbs patient-physician relations, and set the young against their elders. As a nation, we cannot afford it.

From the politician's perspective, however, Medicare is a howling success. A large bloc of senior citizen voters have been compulsorily made dependent on it and simultaneously made otherwise uninsurable. Every election cycle now generates bitter partisan debate so that the dominant party can "save Medicare" for the oldsters—and thus be re-elected. The election debates never discuss the program's congenital defects.

The Medicare system is fatally flawed from a lack of a means test and from the compulsory inclusion of everyone over the age of 65. Medicare will always be a recurring discord in our politics until these two basic defects are eliminated.

Recently the politicians have cautiously edged toward a means test by levying an income tax on the social security benefits of the higher income groups. Perhaps this opening will lead the legislators to have the political courage to apply an "affluence test" to the Medicare qualification and thus find the way to end the immoral practice of using tax dollars to pay the routine medical costs of those who can afford to pay themselves.

Also, Congress has recently changed Medicare regulations to let HMOs have a different, special set of rules for Medicare patients, and the legislators should be encouraged to extend this concept into a method for individual patients to opt out of Medicare and secure their own private insurance once again.

Congress, while tinkering with Medicare to effect cost savings, has given bureaucrats and insurance clerks the authority to determine the "medical necessity" of individual episodes of medical care. This illogical and disruptive ploy has increased patient-physician distress, and Medicare cannot be "fixed" until "medical necessity" decisions are returned to the patient and physician.

Under the present system, neither patients nor physicians have any interest in controlling Medicare fraud and abuse, as everyone believes these evils to be someone else's problem. The key to control is increased individual responsibility, and Medicare fraud and abuse could be greatly reduced by sending the money through the hands (and responsibility) of the patients or their guardians.

Government entitlements—like heroin—are highly addictive, and a cold-turkey end to Medicare could be highly distressing to the nation. Thus, a phased withdrawal is indicated. Congressional enactment of a Medicare "affluence test," an individual option out of Medicare, and the authorization of tax-sheltered medical savings accounts could be a reasonable transition toward the objective of an individual longitudinal insurance coverage to replace our flawed group insurance concept that is the basis of Medicare.

Thirty years of slavery is too many; we physicians must now persuade the politicians to effect the manumission of the Medicare patients.

*Ray V. M. Intyre, M.D.*



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## The Christmas Box

I have just finished reading a wonderful small book entitled *The Christmas Box* by Richard Paul Evans. The book details the personal account of the author and his wife and small child leaving college and relocating in their hometown of Salt Lake City. They secured room and board in a mansion owned by an elderly widow. While moving in, Mr. Evans was allowed to store some of his excess furniture in the attic of the mansion. In rearranging space in the attic, he discovered a very ornate wooden box of burled walnut, which was intricately carved and highly polished. The lid had a skilled and very detailed etching of the nativity scene. Mr. Evans identified the box as a Christmas box to his brother-in-law, who was helping him move. Mr. Evans said that it was used for storing Christmas things such as cards, bubbles, and other assorted gifts from Christmas time.



Mr. Evans had an occasion to casually examine the contents of the box and it was filled mainly with love letters that were dated from the early 1900s. The relationship that the Evans family developed with the elderly widow became a very close and personal one during the next few years. The widow, on one occasion, had an opportunity to ask Mr. Evans what the original gift at Christmas was. Mr. Evans replied in a very casual way that he thought it was probably gold, as part of the presents of gold, frankincense, and myrrh from

the three wise men as they visited the Christ child in the manger. The widow stated, no, that this was not the original gift and that the true gift would become known in the near future.

As the widow developed a brain tumor and was subsequently hospitalized and died, Mr. Evans came to discover that the Christmas box was filled with tender, loving letters from a mother to a small child who had died early in her years. It was the ultimate discovery that the original Christmas gift the widow had inferred was love. It was Mr. Evans' ultimate conclusion that we all have a Christmas box of some type. He hoped that we could find that in our Christmas box, the ultimate gifts which we can give or preserve from Christmas time are the gifts of love, caring, compassion, and concern.

And so in this very hectic and busy time that surrounds the holiday season, may we quietly and privately examine that which is contained in our own Christmas boxes. May we find time and energy to share that which we have abundantly with those who are homeless, who do not have a family, who suffer in this life, or for many reasons. May we find the time and energy to do for others as we would have others do for us.

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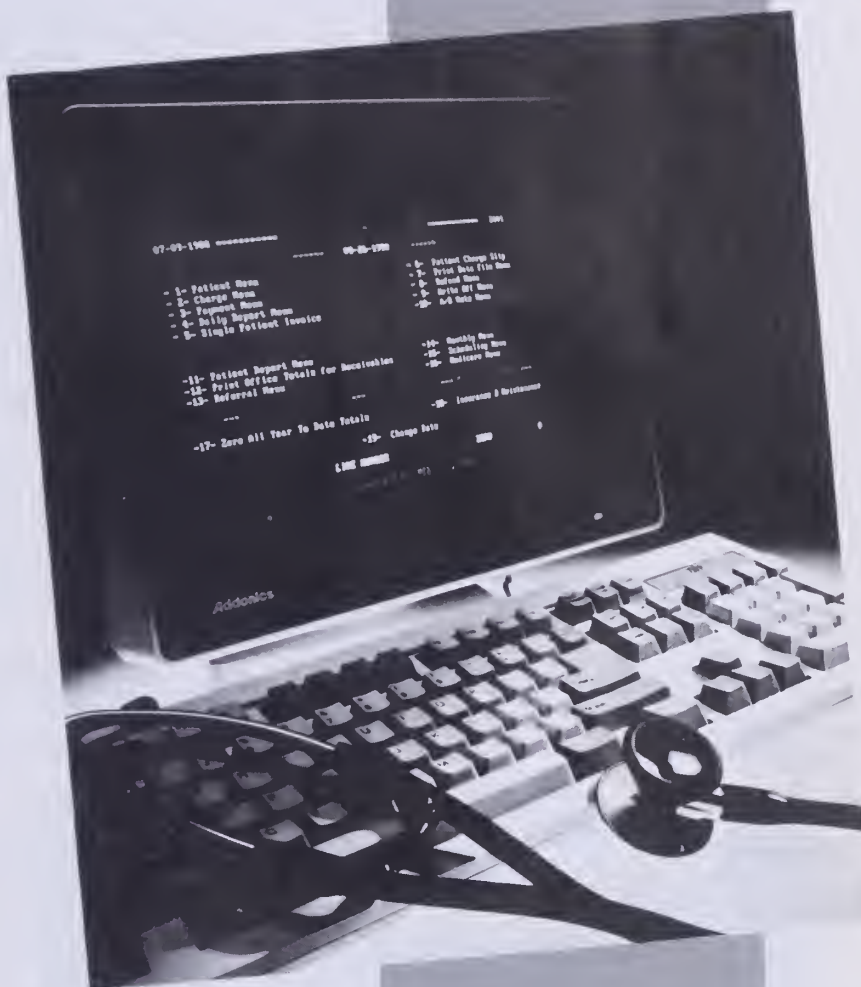
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## Abdominal Mycobacterial Infection Mimicking a Gynecologic Neoplasm: A Case Report with Sonographic Findings

William J. Uzelmeier, MD, John R. Parker, MD, Noah Jaffee, MD

Computed tomography (CT) appears to be the imaging procedure of choice for evaluation of intra-abdominal and pelvic mycobacterial infections. In view of the limited descriptions of these lesions, we describe a patient who presented with transabdominal ultrasound findings of a pelvic mass. Transvaginal ultrasound was suspicious for ovarian neoplasm, yet at laparotomy, fibrous studding of the peritoneum and inflammatory exudate encasing the pelvic small bowel was discovered. The fallopian tubes were thickened and friable. Permanent histologic sections revealed caseating granuloma with acid-fast bacilli.

### Case Report

A 20-year-old gravida 0 Hispanic female born in Mexico and a resident of the U.S.A. for the last 5 years presented with a three-week history of fever, chills, nausea, vomiting, and progressive abdominal distention. Menstrual history was normal. Previous medical and surgical histories were unremarkable.

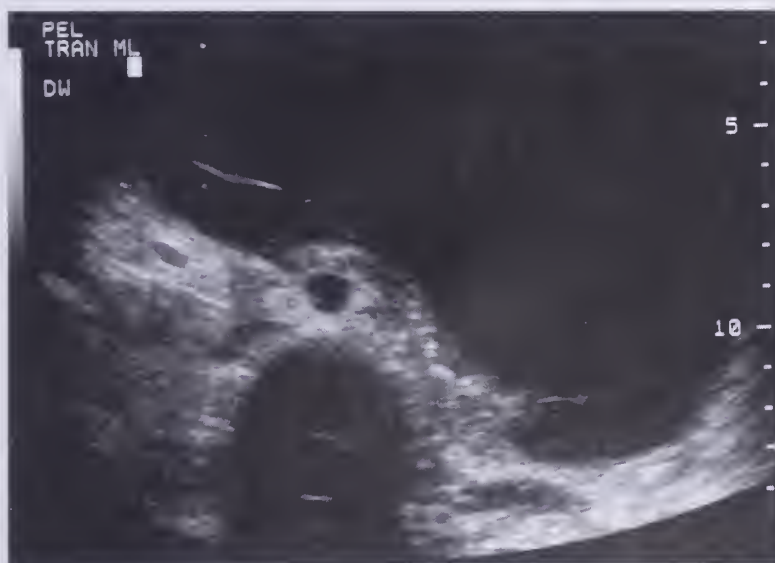
Physical examination included a low grade fever of 38.3°C with tachycardia; the abdomen was moderately distended with mild tenderness to palpation in both lower quadrants. No peritoneal irritation was appreciated. On bimanual pelvic examination, anterior fullness was noted, but no discrete masses were identified. Fundal height

could not be determined because of abdominal distention. Rectal examination was unremarkable.

Routine chest radiograph pre-operatively was normal. Abdominal films were non-specific. Chlamydia ELISA and gonorrhea cultures of the cervicovaginal area were negative. PPD was not reactive; however, the patient was felt to be anergic since control reagents for mumps and histoplasmosis were also nonreactive. HIV antibody testing was negative.

With transvaginal and transabdominal pelvic ultrasound, multiple transverse and longitudinal images (Figs. 1 and 2) showed a massive (20 cm) multi-septated cystic pelvic mass extending superiorly to the left kidney. Many septa were thick-

Figure 1. Transverse view of pelvic mass.



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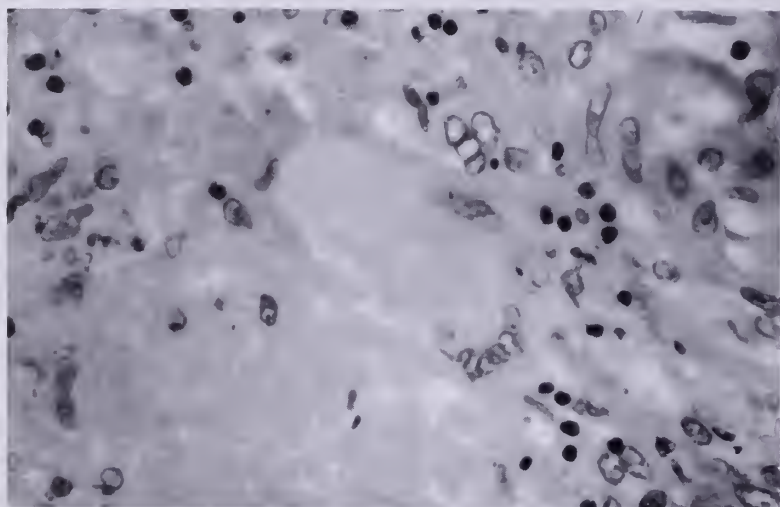
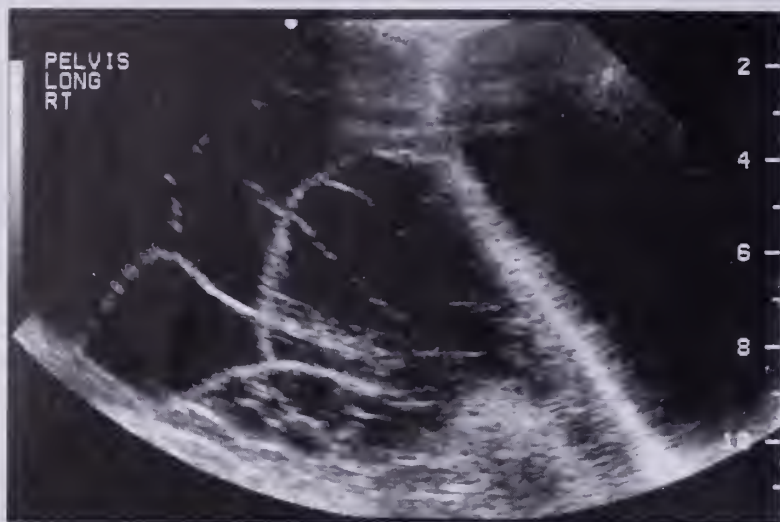


Figure 2. Longitudinal view of pelvic mass.

Figure 3. Histologic examination shows caseating granulomata.

ened or nodular, and internal echoes were noted in the cysts. The mass displaced a 6 cm uterus to the right. Because normal ovaries were not visualized, the mass was felt to represent an ovarian cystadenoma/cystadenocarcinoma or tubo-ovarian abscess.

At exploratory laparotomy, the peritoneal cavity contained thick, pale green loculated fluid. The uterus and ovaries were normal in size. However, there were diffusely thickened fallopian tubes, with friable fimbriated ends. Pelvic small bowel loops had fibrous studding and encasement in an inflammatory exudate. Histologic examination showed caseating granulomata (Fig. 3) with acid-fast bacilli in the fallopian tubes, peritoneal cysts, and omentum. Peritoneal fluid, blood, and urine cultures were negative after six weeks incubation. The patient was discharged on the following antibiotics: INH (300 mg po qd), rifampin (600 mg po qd), and pyrazinamide (2000 mg po qd).

The patient returned to the emergency room four and seven weeks postoperatively complaining of abdominal pain. She was treated symptomatically, but has failed to return to this institution for additional follow-up.

## Discussion

Intra-abdominal tuberculosis (TB) or mycobacteriosis is usually seen in immigrants from underdeveloped countries, American Indians, alcoholics, HIV-positive patients, and individuals on peritoneal dialysis.<sup>1</sup> It may be related to ingesting infected material, such as milk or infected sputum (additional information on our patient indicated that she had ingested large quantities of raw Mexican cheese). Hematogenous and venereal (fallopian tube) dissemination to the abdomen can occur. Synchronous pulmonary infection has been identified in 7% to 72% of patients.<sup>2</sup> A positive PPD is seen in as few as 14% to 30% of patients with abdominal tuberculosis.<sup>3</sup> The clinical diagnosis of abdominal tuberculosis is difficult, but it commonly causes diffuse abdominal pain, and ascites is often present. Peritoneal involvement is seen in approximately 50% of cases.<sup>4</sup> Laboratory data can be non-specific. Recent studies have also documented elevated CA-125 levels in peritoneal tuberculosis, which can further confuse the clinical presentation.<sup>5</sup> Acid-fast bacilli are rarely found in the ascitic fluid when volumes less than one liter are provided.<sup>6</sup> Ascitic fluid cultures are positive for acid fast bacilli in 43% to 66% of patients.<sup>1</sup>

Intra-abdominal tuberculous or mycobacteriosis displays a variety of morphological changes that often mimic other diseases, including lymphoma, peritoneal carcinomatosis, and peritoneal mesothelioma. The CT findings commonly include diffuse lymphadenopathy. Peripheral, homogeneous, and heterogeneous patterns of enhancement may be seen in the lymph nodes.<sup>7</sup> Other findings include ascites, mesenteric thickening, omental caking, omental nodules, and cystic masses.<sup>8,9</sup> The liver, spleen, pancreas, and gastrointestinal tract may be involved.

Sonography is useful in differentiating peritoneal mycobacterial infection from other pelvic masses associated with ascites. Fine, incomplete strands of tissue, along with loculated fluid collections, help differentiate TB from peritoneal carcinomatosis.<sup>10</sup> Small amorphous echoes can be seen floating within the fluid localizations.<sup>11</sup> Thickening of the mesentery and small bowel loops can occur. Pyogenic peritonitis or hemoperitoneum might have a similar appearance, but would change in appearance more rapidly than TB peritonitis. Thickening and/or nodularity of the peri-



toneum and mesentery, along with omental caking can be visualized sonographically.<sup>12</sup>

Definite diagnosis requires microbiologic identification since acid-fast bacilli may represent mycobacterium tuberculosis or a host of nontuberculous mycobacteria. The diagnosis can be suspected without surgical intervention in some situations. However, laparoscopy or mini-laparotomy may be required to disprove a malignant diagnosis. Histologic sections will yield caseating granulomata in all patients; however, acid-fast bacilli are not uniformly present.<sup>1</sup>

### Conclusion

The diagnosis of peritoneal mycobacterial infection should be considered in the appropriate clinical setting and patient population. It is an underestimated and potentially misdiagnosed illness. In our patient, inability to identify the adnexa and a low clinical suspicion made our case more difficult to differentiate from a neoplastic process. The diagnosis was readily apparent after laparotomy.

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Intra-abdominal tuberculosis or mycobacteriosis displays a variety of morphological changes...

## Hypercalcemic Crisis in a Patient with Pulmonary Tuberculosis

Bart Pruitt, DO; Cheyn Onarecker, MD; Thomas Coniglione, MD

Hypercalcemia occurs in 16% to 28% of patients with pulmonary tuberculosis. Rarely, however, does the calcium rise to a level that requires emergency management. In this report, a 49-year-old woman undergoing treatment for pulmonary tuberculosis presented with vomiting and weakness secondary to severe hypercalcemia. Although the pathophysiology of hypercalcemia in this setting is not completely understood, the management is similar to hypercalcemic crisis from other causes. Physicians must maintain a high index of suspicion since prompt recognition and therapy will ensure a successful outcome.

### Case Report

A 49-year-old woman came to the emergency room because of vomiting and extreme weakness. Three weeks before this illness she was diagnosed with pulmonary tuberculosis based on a positive PPD, typical symptoms, an abnormal chest x-ray, and sputum with acid-fast bacilli. Directly-observed therapy with standard doses of INH, rifampin, pyrazinamide, and pyridoxine was initiated by the Oklahoma State Department of Health. Sputum cultures subsequently grew mycobacterium tuberculosis. She did well until one week before admission when she developed vomiting and weakness. No fever, diarrhea, or hematemesis were present, and she denied drinking alcohol. Relevant history included treatment for peptic ulcer

disease and a cholecystectomy many years ago. She also described a ten-year history of insulin-requiring Type II diabetes and a 120-pack-per-year history of smoking.

The physical examination revealed a drowsy middle-aged female, afebrile, with orthostatic changes noted on blood pressure and pulse. Decreased breath sounds and dullness to percussion were noted in the right lower lung field. The patient's abdomen was diffusely tender with voluntary guarding in all quadrants. A rectal exam revealed no masses, and the stool was guaiac negative. The neurological exam appeared normal except the lethargy.

Laboratory findings were as follows: a normal CBC and LFTs, a glucose of 295, a sodium of 126, a potassium of 4.2, a chloride of 80, a CO<sub>2</sub> of 35, a BUN of 31, a creatinine of 1.2, an amylase of 34, a calcium of 15.3, a phosphate of 5.2, and an albumin of 3.9. A chest x-ray showed a cavitary lesion in the right lower lobe.

Intravenous normal saline was started at a rate of 300 cc/hr. After adequate hydration had been achieved, IV furosemide 40 mg was given and repeated every twelve hours. On Day Two the patient was much improved, and the serum calcium had dropped to 11.8 mg/dl. Prednisone was started at 40 mg per day and normal saline was continued at 200 cc/hr. By Day Three the nausea, abdominal pain, and weakness had resolved, and the calcium had dropped to 10.1 mg/dl. Furosemide was stopped and normal saline was decreased to 150 cc/hr. Pertinent laboratory results are shown in Table 1. Because of the abnormal chest findings and the elevated calcium, bron-

Direct correspondence to Bart Pruitt, DO, 608 NW 9th Street, Suite 1000, Oklahoma City, OK 73102.

choscopy was performed to rule out carcinoma. Thickened, friable mucosa was discovered but no obvious endobronchial tumor. Multiple biopsies and bronchial washings revealed acute and chronic inflammation and acid-fast bacteria. Antitubercular therapy was continued and the remainder of the patient's hospital course was uneventful.

## Discussion

Hypercalcemia occurs in 16% to 28% of patients with pulmonary tuberculosis, but the process by which this occurs remains unclear.<sup>1,2</sup> Various pathways have been suggested; most of them related to abnormal vitamin D metabolism. The vitamin D precursor, vitamin D<sub>3</sub>, comes from the diet or is synthesized in the skin under the effect of ultraviolet light from the sun. Vitamin D<sub>3</sub> is first hydroxylated in the liver to 25-hydroxyvitamin D<sub>3</sub>. The next step occurs in the kidney where a second hydroxylation forms 1,25-dihydroxyvitamin D<sub>3</sub>, the active form of vitamin D.<sup>3</sup> Vitamin D helps regulate calcium by promoting calcium absorption in the small intestine, stimulating calcium mobilization from bone, and decreasing calcium excretion in the kidney. Some speculate the hypercalcemia seen in tuberculosis is related to excessive vitamin D intake during therapy.<sup>1</sup> Most patients with hypercalcemia, however, do not receive vitamin D supplements.<sup>4</sup> Other reports have noted a link between the institution of antitubercular therapy and the development of hypercalcemia. No mechanism, however, has been described to explain such an interaction.<sup>4</sup> In addition, many patients develop hypercalcemia before starting treatment.<sup>5</sup>

The most appealing theory suggests the hypercalcemia is due to increased synthesis of vitamin D in extra-renal sites, specifically alveolar macrophages.<sup>6</sup> Several arguments support this theory. First, it is well known that hypercalcemia occurs with other granulomatous diseases such as sarcoidosis,<sup>7</sup> histoplasmosis<sup>8</sup> and coccidiomycosis.<sup>9</sup> In sarcoidosis alveolar macrophages have been shown to produce 1,25-dihydroxyvitamin D<sub>3</sub>.<sup>10</sup> A similar process is implied in tuberculosis. Second, elevated serum levels of 1,25-dihydroxyvitamin D<sub>3</sub> have been detected in anephric and end-stage renal patients with tuberculosis.<sup>11</sup> Third, drugs such as ketoconazole and corticosteroids, which can inhibit the production of 1,25-dihydroxyvitamin D<sub>3</sub>, have been shown to decrease vitamin D and calcium levels in tuberculosis patients with hypercalcemia.<sup>1,12</sup> Fourth, inflammatory cells obtained by bronchoalveolar lavage from a patient with tuberculosis were able, *in vitro*, to produce metabolites with activity identical to

Table 1.					
Laboratory (mg/dl)	Pre-TB Treatment	Hospital			
		Day 1	Day 2	Day 3	Day 30
Calcium	9.6	15.3	11.8	10.1	9.5
Phosphate	3.5	5.2	3.6	2.7	4.5
Sodium	135	126	135	135	134
Potassium	4.3	4.2	3.5	3.8	4.4
BUN	7.0	31	30	25	9
Creatinine	1.0	1.2	1.2	1.1	0.9
Glucose	211	295	153	152	357

vitamin D.<sup>6</sup> The theory of extra-renal production of vitamin D, however, as the primary cause of hypercalcemia has some problems. For example, not all patients with hypercalcemia have high circulating levels of vitamin D.<sup>13</sup> In addition although activated macrophages may produce vitamin D, this has not been shown to contribute significantly to the increased calcium levels.<sup>6</sup> Hypercalcemia in tuberculosis, therefore, may result from a combination of several processes: a decrease in renal function, excessive exogenous intake of vitamin D<sub>3</sub>, increased intestinal sensitivity to vitamin D, and activated macrophage production of 1,25-dihydroxyvitamin D<sub>3</sub>.

Hypercalcemia associated with tuberculosis rarely causes symptoms, and elevated calcium levels are usually found on routine laboratory studies. Those with more advanced disease and those over fifty are more likely to become hypercalcemic.<sup>4,5</sup> Calcium levels peak four to sixteen weeks after beginning treatment and typically return to normal by the time the *M. tuberculosis* disappears from the sputum. Some patients, however, develop severe hypercalcemia with vomiting, weakness, abdominal pain, constipation, drowsiness, disorientation, polyuria, and anorexia. As levels reach 15 mg/dl the following may also appear: impaired memory, flapping tremor of the hands, and severe skeletal muscle weakness. A variety of cardiac complications can develop including bradyarrhythmias and heart block. Renal failure and death can occur at levels above 18 mg/dl. Since patients can develop hypercalcemic crisis with calcium levels below 15 mg/dl, however, treatment must be based on the patient's symptoms and not an absolute serum level.

Regardless of the suspected cause of hypercalcemia, when serum levels exceed 15 mg/dl, or when patients become symptomatic at lower

Hypercalcemia occurs in 16% to 28% of patients with pulmonary tuberculosis...



Although mild hypercalcemia occurs commonly in tuberculosis, hypercalcemic crisis rarely develops. Routine monitoring of serum calcium, therefore, is not recommended

calcium levels, immediate treatment is required. To restore fluid volume and to enhance renal excretion of calcium, normal saline should be infused at rates up to four liters per day.<sup>16</sup> The infusion rate should be adjusted to keep urine output at three liters per day.<sup>3</sup> Those with severe renal failure will require dialysis. Judicious use of furosemide can promote calcium excretion and prevent fluid overload, but electrolyte levels must be carefully monitored. With these measures alone the patient's clinical status will improve considerably, and serum calcium levels will drop 1.5 to 2.0 mg/dl within the first 24 to 48 hours.

In addition to rehydration, treatment will depend upon the underlying cause. Many patients, particularly those suspected of having malignancy-induced hypercalcemia, will benefit from treatment with pamidronate, which decreases bone resorption by inhibiting osteoclasts. In the setting of tuberculosis, or other granulomatous diseases, prednisone 40-100 mg/day will effectively lower calcium levels. Continued treatment with antitubercular drugs controls the tuberculosis and the resultant hypercalcemia.

Although mild hypercalcemia occurs commonly in tuberculosis, hypercalcemic crisis rarely develops. Routine monitoring of serum calcium, therefore, is not recommended. Instead, physicians must be aware of the frequency with which hypercalcemia occurs in this setting. If significant symptoms develop, alert physicians can administer rapid and effective treatment. □

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## Minimal Inflammatory Response in Some Cases of Group A Streptococcal Myofasciitis

Clifford G. Wlodaver, MD

Prompted by last month's paper on necrotizing fasciitis [Schwartz SN, "Streptococcal Necrotizing Fasciitis"], JOURNAL Associate Editor Clifford G. Wlodaver, MD, reports on two additional cases.

In a disease that may progress rapidly and require mutilating surgery to overcome, the early and accurate diagnosis of a group A streptococcal myofasciitis is obviously paramount. Yet as Schwartz et al<sup>1</sup> point out in their timely article, the diagnosis may be elusive. They mention that biopsy can give an expeditious and accurate answer. However, as described in a recent *New England Journal of Medicine*, "tissue-destructive group A beta-hemolytic streptococci infections may elicit little or no inflammatory response, despite a high concentration of streptococci in the muscle."<sup>2</sup> Two cases I have seen and briefly describe below are similarly characterized by deceptively normal appearing tissue, further supporting this unexpected finding.

The first case was a 36-year-old woman who had exquisite pain and swelling of the leg, fever, hypotension, disseminated intravascular coagulation (DIC), and acute renal insufficiency associated with group A streptococcal bacteremia. Despite gross swelling from the ankle to the knee, pathological examination of the amputated leg showed only a small, localized area of acute necrotizing fasciitis. Gram-positive cocci were seen only in this area.

In the second case, a 61-year-old man had a painful, swollen arm, fever, hypotension, DIC, acute renal insufficiency and an elevated creatine kinase. A percutaneous aspirate of the arm showed gram-positive cocci on Gram's stain. Cultures of both the aspirate and his blood grew group A streptococci. The patient was hesitant to undergo the recommended fasciotomy with possible amputation, and requested a biopsy to "prove the diagnosis." The biopsy specimen was normal on gross examination and showed no signs of inflammation other than some fascial edema on microscopic examination. Stains of the specimen were negative for bacteria.

Intuitively, one would expect widespread, intense inflammation in the histologic specimens obtained from tissue clinically involved with invasive group A beta-hemolytic streptococcal infection. However, there was minimal if any inflammation noted in the two cases described above, as in the *New England Journal of Medicine* case.<sup>2</sup> Perhaps this is because the syndrome is to a large extent toxin-mediated.

Analogizing from classic necrotizing fasciitis, using biopsy for diagnosis certainly makes sense,<sup>3</sup> as reiterated by Schwartz et al.<sup>1</sup> Indeed, physicians, patients, and their families understandably often feel compelled to definitively ascertain the diagnosis, by biopsy, before considering the necessarily mutilating surgery. This was clearly illustrated by the second case noted above. Yet the minimal inflammation that may be found in streptococcal myofasciitis may be misleading. Schwartz et al<sup>1</sup> neatly review the syndrome. When the weight of clinical evidence points to strepto-

Analogizing from classic necrotizing fasciitis, using biopsy for diagnosis certainly makes sense...

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coccal myofasciitis, one should not be dissuaded by the absence of gross and microscopic inflammation.

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The use of death certificates to track suicide rates may be misleading because suicides are likely to be reported as accidents, and accidents are the leading cause of death for adolescents in this country.

## Adolescent Suicide: Implications for Primary Care

Betty Pfefferbaum, MD, JD; Heather Geis, MD

A number of factors associated with teen suicide have been elucidated in recent years. Relevant clinical and research issues are reviewed: victim characteristics including psychopathology and warning signs; social influences including the effects of music and the media, the role of imitation and access to firearms; prevention programs; and implications for practice including professional education, primary care interventions, response to threats, commitment, and post-intervention.

**T**he suicide of a teenager is alarming: it means loss of life at a young age; it may mean a violent death; it is often precipitated by something which seems insignificant at least to adults; and it may be preventable. The increasing number of adolescent suicides over the last several decades has sensitized both professionals and the public, and research has provided a knowledge base from which to initiate prevention strategies and professional intervention. This article reviews relevant information regarding teen suicide: victim characteristics including psychopathology and warning signs; social influences such as the effects of music and the media, the role of imitation and access to firearms; prevention programs; and implications for practice including professional education, primary care interventions, response to threats, commitment, and post-intervention.

### Victim Characteristics

Teen suicide statistics, like other statistics, are reported nationally by age. The age usually referenced for teen suicide is 15 to 24 years. While the actual number of teen suicides is relatively small, accounting for about 5,000 deaths a year, there has been a dramatic increase in the teen suicide rate over the last four decades—from 4.5 per 100,000 in 1950, to 12.3 per 100,000 in 1980, and to 13.3 per 100,000 in 1989.<sup>1,2</sup> For those aged 15 to 24 years in Oklahoma in 1989, the rate was 15.6 per 100,000; in 1990, it was 16.5 per 100,000; and in 1991, it was 14.3 per 100,000. For those between 15 and 19 years, the rates in Oklahoma were 15.0 per 100,000 in 1989, 15.9 per 100,000 in 1990, and 12.0 per 100,000 in 1991.<sup>1</sup>

Suicide is almost certainly under-reported. The use of death certificates to track suicide rates may be misleading because suicides are likely to be reported as accidents, and accidents are the leading cause of death for adolescents in this country.<sup>3</sup> One study of over 200 youths 19 years of age and under found that 15% of the deaths classified as suicides had not been officially reported as suicides by medical examiners.<sup>4</sup> Some say that reported suicides represent only half of all suicides,<sup>1</sup> but there is evidence that medical examiner reports are increasingly more accurate with respect to teen suicide, at least in metropolitan areas.<sup>4</sup> This improved accuracy may reflect increased awareness of the problem and decreased stigma associated with it.

A closer look at the statistics for the 15- to 24-year-old age range reveals that male suicide vic-

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tims outnumber female victims by a factor of five. While suicide rates for African Americans are less than those for Anglos, and the increase in rates has been more rapid for Anglos than for African Americans, the rates for African Americans and other minority males have increased dramatically since 1986.<sup>5</sup> Rates for Native Americans vary by tribe, with rates for some tribes more than 20 times greater than the national average, and for others, about the same as the national average.<sup>6</sup>

For teens of both sexes, the most common agent in completed suicides is firearms, and substance abuse is common among those using firearms.<sup>7</sup> Other frequent causes of death are hanging in boys, and ingestion, poisoning, and jumping from heights in girls.<sup>4</sup> One study of over 200 youth 19 years of age and under found that 10% of completed suicides were due to ingestion of toxic amounts of drugs. Of those, 24% used analgesics and 38% used antidepressants, usually prescribed for the teen who committed suicide.<sup>4</sup>

A recent study of adolescent suicides found that 62% of teens who committed suicide had talked about suicide, usually on the day of death; 50% left notes; and many died at home.<sup>4</sup> It is estimated that over 40% of adolescents who commit suicide have made previous attempts and that between 0.1% and 10% of those who make attempts will eventually succeed.<sup>7</sup>

Adolescents may be especially vulnerable to suicide because of stresses associated with the physical and psychological changes they experience. Physical growth and sexual maturation, struggles for independence and individuality, and the teenager's egocentric view of the world may create conflict and stress both internally and with significant others.<sup>8,9</sup> Adolescents living in rural areas may experience additional stresses such as loneliness, concerns about anonymity when seeking counseling, and problems finding treatment.<sup>9</sup> This is reflected in increased suicide rates for male teens and increased use of firearms in rural communities.<sup>10,11</sup> Prevention and intervention by primary care physicians are essential for these youth who often lack access to mental health professionals.

**Psychopathology.**— With respect to types of psychopathology associated with suicide, three groups of youth have been identified: those who are depressed; those who are impulsive, delinquent or aggressive; and those who are both depressed and impulsive or delinquent.<sup>12</sup> Many are suffering their first depressive episode and for many, the suicide occurs early in the course of the illness, making early detection and treatment crucial.<sup>13</sup> Many youth who commit suicide have ingested alcohol, and substance abuse is an im-

portant risk factor especially when comorbid with affective disorder.<sup>4,13</sup>

While there is a strong correlation between completed suicide and active psychiatric illness, a significant minority, 5% to 10%, of completed suicides occur in the absence of current psychiatric disturbance.<sup>14-16</sup> These findings are disconcerting because of the implication that suicide could ensue in apparently normal adolescents. A recent study of seven adolescent suicide victims who had no apparent evidence of a current major psychiatric disorder found that the victims were more pathologic than normal community controls with respect to a number of variables. They were more likely than community controls to have past suicidal tendencies, a family history of psychiatric disorder, legal or disciplinary problems, and access to a loaded gun in the home.<sup>14</sup>

**Warning Signs and Precipitants.**— While many suicides are not predictable, risk factors and warning signs have been identified. These include clinical depression, personality or behavior changes, use of drugs or alcohol, previous attempts, changes in school performance or attendance, the suicide of a relative or friend, preoccupation with themes of death, talk of suicide, giving away possessions, and making arrangements either for suicide or after death.

Warning signs are missed for a variety of reasons. Some of the signs are not specific and characterize many teens, most of whom do not attempt or complete suicide. Family and friends often do not know how to help; they may be unsympathetic or think the suicidal teen is exaggerating or being dramatic. Suicide stigmatizes family and friends so they tend to distance themselves from the suicidal teen, isolating him or her further. Denial is common. Family and friends may be sworn to secrecy and do not want to betray a confidence.

Common acute precipitants of teen suicide are: interpersonal loss or conflict such as an argument with a parent or parents, boyfriend or girlfriend, or the termination of a romantic relationship; legal or disciplinary problems; and a humiliating event such as pregnancy, school failure, or even being teased.<sup>4,7,8</sup> Such stresses in youth should not be minimized. Unfortunately, however, these stresses are not uncommon and there is often very little time between the precipitating event and the suicide, leaving little opportunity for intervention. For many, the time from precipitant to suicide is less than 24 hours.<sup>4</sup> This is consistent with the impulsiveness seen in many suicidal teens.

**Clinical Vignette.**— The following vignette describing an adolescent male evidences many of the characteristics of teen suicide:

Prevention and intervention by primary care physicians are essential...



Steve's father was taking a shower when he heard a knock on the door and his wife scream. Police escorted him to a pick-up truck on a neighboring street and asked him to identify the teenager in the front seat. Steve's head was hung down and he was slumped as if he were dozing, but when his father looked more closely, he saw blood running out of Steve's mouth and a hole in the side of Steve's head. Steve was 19 years old when he died of a self-inflicted gunshot wound to the head.

Steve had learning disabilities and was a high school dropout who had failed many job attempts. He had a long history of substance abuse. Steve's uncle killed himself a year before Steve died. Other losses included the suicide of a friend and breaking up with his girlfriend. His father was a recovering alcoholic and there had been a long history of marital problems.

Steve's parents had suspected a suicide risk. Steve had attempted suicide by overdosing approximately one year prior to the completed suicide. On the day of the suicide, Steve appeared depressed and angry. His mother remembered hearing him talk to his former girlfriend on the phone just prior to the suicide. The girlfriend later reported that Steve had confided in her that he intended to kill himself.

The day prior to the suicide, Steve and a friend, Mark, had been arrested. They had been using drugs prior to the arrest, but his family was never sure why Steve had been arrested. Steve simply stated that he had been "harassed" by the police. Another friend later reported that Steve and Mark had done "something" which they could not discuss with anyone. Whether that was a criminal incident, a homosexual liaison, or just what, was not known.

On the day of the suicide, Steve did not go to work. He and Mark purchased a gun and went target practicing. On that day Steve's father confronted him about his drug use and Steve repeated his verbal attacks about the injustices of society. Steve left home to go to Mark's house and his father, concerned about Steve, checked to be sure that he hadn't taken his rifle. His father did not know about the newly purchased gun.

### **Social Influences**

A number of potential influences affect teens: music, the media, and peer influence have all been implicated in suicide clusters and present possible prevention opportunities.

**Music.**—Music plays an important role in the

lives of many teens who often spend hours listening to it, most of the time unsupervised and uncensored. A youth's preferences in music provide clues to his or her emotional health. In their struggle to individuate and at the same time conform to peer pressure, some teens become submerged in subculture and counterculture behavior. Others, isolated and withdrawn, may be attracted to expressions of dark destructive despair in music.

A recent study examined the relationship between music preference and teen suicide in a normal high school population in Australia. The investigators divided music into pop and a spectrum that included rock to metal and punk music. They found that girls preferred pop music and boys showed greater preference for the rock spectrum music. There were associations between preference for the rock spectrum music and depression, delinquency, risk taking, drug use, and suicidal ideation and behavior, especially in girls. That is, the girls who preferred the rock spectrum music appeared more disturbed though this association does not necessarily establish a cause-and-effect relationship.<sup>17</sup>

In recent years, music has been implicated in teen suicide, and several courts have examined the level of First Amendment protection available for producers, performers, and distributors of music.<sup>18-20</sup> Music that is obscene or defamatory or that represents fighting words or incites imminent lawless action receives diminished First Amendment protection. The *Brandenburg* test, used in cases involving the advocacy of violence, requires the speaker to have subjective intent to incite imminent lawless action, and the speech must be likely to result in such action.<sup>21</sup> Therefore it is difficult to succeed against recording artists and producers on First Amendment grounds because proof of the requisite intent is difficult to establish. Furthermore, the listener decides when, where, and how to listen; the listener can reflect on the message and can turn the music off.<sup>22</sup>

In order to prevail in a tort-based claim following a suicide, the element of causation must be established. Without a suicide note, dying declaration, or other direct link between the suicide and the music, it is difficult to prove that specific lyrics induced the suicide or that the suicide would not have occurred anyway.<sup>22</sup>

With respect to prevention, professionals have called for responsible behavior on the part of performers and producers. The American Academy of Pediatrics recommends that the public and parents "be made aware of sexually explicit, drug-oriented, or violent lyrics;" the music industry "be encouraged to demonstrate good taste and

In recent years, music has been implicated in teen suicide...



self-restraint" in deciding what is produced and broadcast; performers remember their influence as positive role models; concerned organizations encourage parents to monitor their children's music; "local coalitions" of professionals and parents consider the effects of the media on children and teens; and research on the impact of music on behavior be undertaken.<sup>23</sup> Primary care providers may be influential in implementing these recommendations in their communities.

**The Media.**— Any glorification of suicide potentially increases the risk of it occurring, and media exposure has been implicated in the "copy cat" effect of teen suicide clusters. A number of studies have demonstrated an increase in teen suicide after television newscasts about suicide, especially if those stories were repeated.<sup>24</sup> Other studies show increases in completed and attempted suicide following fictional stories of teen suicide.<sup>6</sup>

A more recent study questions these findings. A reanalysis of data collected during the period between 1973 and 1984 revealed that while there was an increase in suicides following newscasts from 1973 to 1980, there was no significant association between newscasts and subsequent suicides for the entire period from 1973 to 1984. Furthermore, from 1981 to 1984, teen suicides decreased after newscasts about suicide.<sup>25</sup> There are several possible explanations for these findings: the character of news stories about suicide may have changed beginning in the early 1980s, teens may have developed a more realistic perception of suicide in more recent years, and families, schools and communities may have implemented more effective prevention and early intervention addressing adolescent suicide and the issue of contagion.

It is possible to enlist the aid of the media in prevention and it behooves the industry to address the issue of responsible reporting. Health care professionals may intervene by developing relationships with the local media and by encouraging responsible reporting. For example, the media may be helpful in providing information about warning signs and symptoms and how and where to obtain help.

**Imitation.**— One recent study examining suicidal behavior in friends and acquaintances of suicide victims failed to show an increase in suicide attempts in the friends and acquaintances of the victims compared to matched community controls. There was an increase in depression which the investigators distinguished from mere bereavement, a small but significant increase in post traumatic stress disorder (PTSD) in the friends and acquaintances of the victims, and an increase in suicidal ideation which could be accounted for

by the depression and PTSD. The investigators concluded that suicide contagion may be attributed to the depression triggered by loss rather than to imitation.<sup>26</sup>

Another report addressed the difference between bereavement and depression in the friends and acquaintances of suicide victims. The investigators compared friends and acquaintances who became depressed subsequent to the victim's suicide with those who were depressed at the time of the victim's suicide and later, and with those who suffered no depression. A history of major depression was the single most powerful predictor for those with prior onset depression. Those with subsequent onset depression were closer to the suicide victims and were likely to have had greater exposure to the suicide through things such as witnessing the event, discovering the body, and conversing with the victim on the day of the suicide. Other important factors associated with subsequent onset depression were positive family psychiatric history and current parental depression. Those with prior depression were more impaired than those with subsequent depression. The investigators concluded that both groups were depressed and that subsequent onset depression was likely to be a complication of bereavement since the individual's relationship to the victim and exposure to the suicide were important determinants of the depression.<sup>27</sup> At follow-up, exposure to suicide was not associated with increased suicidal behavior.<sup>28</sup>

Prevention measures should include efforts to reach the friends and acquaintances of teen suicide victims. Even though there may be no demonstrated risk of increased suicidal behavior, these teens may suffer bereavement, PTSD, depression, and suicidal ideation.

**Firearms.**— One critical prevention strategy is to limit access to controllable means. Various studies have implicated the easy access to firearms in the increase in teen suicide.<sup>29,30</sup> One study found that the presence of a loaded gun in the home distinguished suicides of those without apparent current psychiatric problems from those with definite or probable psychiatric disorder and those in a community control group with no psychiatric disorder. In fact, the availability of a loaded gun may determine the outcome of a suicide attempt in those who are impulsive and do not suffer affective illness.<sup>14</sup> One study which failed to show a decrease in the overall suicide rate in communities with gun control did demonstrate a difference in the suicide rates for those aged 15 to 24 years.<sup>31</sup> Given the impulsive nature of many youth suicides, gun control must be considered in prevention efforts.

Prevention measures should include efforts to reach the friends and acquaintances of teen suicide victims.

Studies generally implicate handguns in suicide, but in rural communities, long guns may be used because they are accessible.<sup>15</sup> Increased availability of firearms is not the only concern. Firearms are more lethal now than in the past. They are seen as a means of resolving problems, and there is decreased respect for human life—one's own life as well as the lives of others.<sup>32</sup> If guns were not available, some would commit suicide by other means, but some would not. This may be particularly true for impulsive teenagers.

It has been recommended that owning and operating firearms be subjected to the same kind of licensing and monitoring applied to owning and operating motor vehicles. This would require that owners and operators be of a certain age, meet specific physical and mental criteria, be identifiable as owners or operators, demonstrate knowledge and skill in operating the instruments, be subject to performance monitoring, and forfeit the right to own or operate the instruments if these responsibilities are abrogated.<sup>33</sup>

Though the use of firearms is the most common method of teen suicide, it is unclear how successful stricter gun licensing laws would be in solving the problem. Gun control alone would certainly be inadequate because it fails to address individual distress or emotional disorder and precipitating factors. Physicians should routinely inquire about access to firearms and should carefully assess the potential for lethal results. Both firearm safety and education efforts should be promoted.

## Prevention Issues

**School Programs.**—Studies of high school students, not patients, reveal that over half report thoughts of suicide and about 9% make suicide attempts. Most who make attempts do not receive mental health attention.<sup>34</sup> Furthermore, teens are likely to learn of their peers' suicidal plans and behaviors, and most do not inform adults.<sup>35</sup> Therefore, it is important to institute mechanisms to identify and treat those at risk and to encourage disclosure by those who are aware of the suicide potential of peers. One response has been a proliferation of school-based suicide prevention programs.<sup>7</sup>

Programs aimed at the general teen population have questionable results.<sup>36</sup> A review of such programs found that most students had sound knowledge and judgment before entering the programs, about 3% identified themselves as in need of help, and between 5% and 20% had inappropriate views which did not change upon completion of the program.<sup>7</sup> Other studies have reported benefits.<sup>37</sup>

One study comparing students who had made suicide attempts with those who had not, found previous attempters were less likely to seek help or to disclose their feelings to others in response to suicide prevention programs. It was not clear whether this reflected the adolescents' own difficulties in disclosing feelings or if it related to a real or perceived resistance on the part of potential helpers, especially families. Attempters were more likely to see suicide as a possible solution to problems than were nonattempters and they were also more likely to be negative toward the programs. This suggests that programs which focus on the relationship between suicide and stress may reinforce what suicide attempters already know, and that programs which provide additional problem-solving mechanisms for attempters may be beneficial.<sup>38</sup>

School programs that are purely instructional may not alter the attitudes of those most in need of help and may not identify and reach high-risk adolescents. Therefore, it might be preferable to devote resources to identifying and treating high-risk students and to education about symptoms and potential resources for help.<sup>7,36</sup>

**Crisis Programs.** Another community reaction to the problem of teen suicide has been the establishment of crisis programs and telephone hotlines. These usually provide telephone contact with a professional or concerned individual on a 24-hour-a-day basis. The success of these programs in actually reducing suicide rates is debatable. Those most in need of help may not use the services or follow the advice given and the advice given may be inappropriate.<sup>7</sup>

## Implications for Practice

Chronic illnesses, physical disabilities, and other illnesses and physical complaints are common in young suicide victims.<sup>4</sup> Studies indicate that many suicide victims consult their primary care physicians shortly before their attempts or deaths.<sup>39</sup> One study found that almost 15% of adolescents attending an adolescent primary care clinic in an inner city had made previous suicide attempts. Nearly half of the attempts occurred within the preceding year and 10% occurred within the preceding month. None of the patients who reported previous attempts presented with a chief complaint of suicidal ideation and less than one-fifth were asked by their physicians about suicidal ideation or behavior. Attempters were more likely than nonattempters to be female, visit the clinic without a guardian, and have a chief complaint related to sexually transmitted diseases, obstetric or gynecologic concerns, or mental health

Studies indicate that many suicide victims consult their primary care physicians shortly before their attempts or deaths.



concerns.<sup>40</sup> It is essential that primary care providers assess the suicide potential of their patients.

**Professional Education.**— Youth with psychiatric disorders are more likely to commit suicide than those with no previous psychiatric history. Therefore, one efficient way to prevent suicide is to train professionals in the detection and treatment of youth with psychiatric disorders. Educational programs for general practitioners have been demonstrated to be successful in increasing knowledge about the diagnosis and treatment of affective disorders in adult patients and have been associated with a decrease in the suicide rate.<sup>41</sup>

**Intervention by Primary Care Providers.**— Both demographic factors and psychiatric illness are predictive of suicide but relying on either, or both, alone may be inadequate. Identification of potential suicide victims in primary care settings is problematic because suicide is a rare event with high false-positive rates.<sup>42</sup> Demographics are weak predictors, and patients may experience psychological distress and disability without meeting diagnostic criteria for psychiatric illness.<sup>39</sup> Depressed adolescents are at risk but so are those with impulsive and aggressive symptoms, and detection and treatment of substance abuse is crucial. Addressing these problems with patients should prove beneficial; physicians will obtain useful information about their patients and patients will feel their physicians are concerned about them.

One group of investigators developed a four-item screening instrument, the Suicidal Ideation Screening Questionnaire (SIS-Q) to be used by primary care providers to assess suicidal tendencies and to identify individuals who should receive further evaluation. Symptoms on the SIS-Q relate to sleep disturbance, depressed mood, guilt, and hopelessness.<sup>39</sup> While the SIS-Q was developed for use with adults, it underscores the need for attention to suicide prevention by primary care providers and can be adapted for use in teen patients.

Those working with teens in primary care settings should take advantage of professional contacts to inquire about suicidal ideation and behavior, recent stresses, the use of alcohol and drugs, and the availability of firearms. Such inquiries do not create problems and, in fact, suicidal teens are typically relieved when asked about these issues. Positive responses should guide intervention and referral. If the teen acknowledges suicidal ideation, the physician must determine if the teen has developed a plan, and if so, the plan's likelihood of success and the probability that the teen will carry it out.<sup>43</sup>

It is important for primary care providers to identify and intervene with teens experiencing psychological distress. Family assessment and intervention are crucial. Medication may be indicated to treat depression or other psychiatric illnesses. When it is, prescription must be made cautiously. Ingestion of drugs is a common means of attempting suicide and not uncommon in completed suicides. Therefore, physicians must familiarize themselves with the effects and potential deadliness of the drugs they prescribe. When using psychoactive medications, consultation with a psychiatrist is indicated if possible. In addition, it is advisable to ask a parent or other adult to monitor the taking of these medications.

**Response to Threats and Referral.**— While there may be warnings of impending suicide, family, friends, and even professionals often do not know how to intervene. Some believe the myth that those who talk about suicide do not commit it. Sometimes family and friends think the suicidal teen is exaggerating. Friends may have been sworn to secrecy. Therapists are guided by the principle of confidentiality, but do not extend that confidentiality to threats of suicide or serious harm. Family and friends, however, are not accustomed to confronting the issue of confidentiality; they rarely know how to deal with such secrets and may hesitate to seek help, feeling they are betraying a confidence. The primary care provider is advised to extend modified confidentiality and can educate parents and teens about appropriate responses. Consultation with a mental health provider can be life saving if there is any doubt.

All suicide threats and attempts should be taken seriously.<sup>43</sup> By doing so, we convey the message that suicide is aberrant and must be discouraged. Suicide should be portrayed as an abnormal act by one who is mentally ill.<sup>7</sup> Otherwise, there is danger that teens will glorify it and view and use it as a means of solving problems.

Consultation with a mental health professional must be considered when working with disturbed youth. It is ideal for consultation to occur in close temporal and spatial proximity to the medical contact. This is facilitated by developing close professional relationships with mental health professionals and by establishing multidisciplinary teams. Since many referral appointments are never kept, personalized efforts are essential. Such efforts might include scheduling appointments for the teens and making follow-up calls to determine if appointments were kept.

The professional who learns of a teen's suicide intent may have a duty to warn the teen's parent(s). In *Tarasoff v. Regents of the University*

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of California, the California Supreme Court established a duty to warn known potential victims of patient violence.<sup>44</sup> This duty has been adopted through case law and statute in many jurisdictions including Oklahoma.<sup>45</sup> At least one court has refused to extend the duty to warn to cases involving threat of suicide.<sup>46</sup> A recent Maryland case, however, extended the duty to school guidance counselors who had notice of a student's suicide potential because (1) the foreseeability and certainty of harm were very great, (2) the state had an interest in preventing the suicide, (3) there was community support for intervention, and (4) the burden on the counselors was small when balanced against the risk of death.<sup>47</sup> Regardless of possible legal implications, professionals dealing with suicidal youth must pursue all reasonable measures to preserve life.

**Commitment.**—Involuntary commitment or mandatory treatment (either inpatient or outpatient) of the individual suicide attempter, and possibly his or her family, is a consideration. Arguments and ethical issues related to individual autonomy in the right to make treatment decisions are less compelling with teens than with adults, especially those teens contemplating or attempting suicide, as the state's interest in protecting troubled youths carries greater weight in the balance.

Oklahoma law provides for inpatient mental health treatment of children.<sup>48</sup> There is a preference for outpatient treatment with inpatient treatment available "only as necessary to preserve the health or safety of the child."<sup>49</sup> Should hospitalization or commitment be considered, the primary care physician should consult with a mental health professional.

**Post-intervention.**—Post-intervention refers to interventions with families, friends, schools, and communities after someone commits suicide. There is little research examining the effectiveness of post-intervention or its role in prevention of other suicides.<sup>7</sup> It potentially aids family and friends who survive a suicide in their resolution of the suicide, and may decrease the likelihood of imitation.

## Summary

The teen suicide rate in the United States has almost tripled in the last four decades; rates in Oklahoma have surpassed national rates. Teens are using violent means of suicide and substance abuse is a major factor. Suicide attempts far outnumber completed suicides. Studies of high school students indicate that large numbers do not receive medical attention. Primary care providers play a

critical role in prevention. As clinicians, they have the opportunity to identify psychopathology and intervene with direct care or referral. As important members of their communities, they may assist in efforts to limit access to controllable means, educate the public, and monitor media coverage.

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## The University of Oklahoma College of Medicine Rural Health Educational Program

Everett R. Rhoades, MD; F. Daniel Duffy, MD; Nancy K. Hall, PhD; Douglas W. Voth, MD

Training of physicians to meet the health care needs of rural residents has long been a priority of the University of Oklahoma College of Medicine. With establishment of the much imitated Rural Preceptorship Program in 1948, the college launched an ongoing series of efforts all directed toward increasing the number of graduates choosing to practice in rural locations. In addition to the required senior Preceptorship Program, a series of educational programs is available in each year of medical school, actually beginning prior to freshman enrollment. As a result, the college now offers a comprehensive series of educational experiences involving not only four years of medical school, but graduate training in the primary care specialties as well. This report summarizes the various activities of the college that now make up the rural emphasis program, all of which are designed to help ensure an adequate supply of physicians for rural Oklahoma.

Attention to the continuing needs of those living in rural communities has intensified in recent years and appears to have accelerated as a result of financial concerns such as those embraced in the term, *managed care*. The concern is both of national and local scope.<sup>1,2</sup> Recognition of these needs in Oklahoma has led to a number of efforts directed at providing increased access to care for rural inhabitants of the state.

Some of these efforts include the Area Health Education Centers (AHEC), the Office of Rural Health in the State Health Department, and the recently formed Oklahoma Rural Health Association. Thus, it is not surprising that these developments and associated concerns affect, and are affected by, the medical educational institutions of the state.

The distribution of physician manpower in Oklahoma of late has been extensively described.<sup>3-8</sup> Although the major factors influencing location of rural practices are largely beyond the ability of the educational institutions to influence,<sup>9</sup> the latter recognize an inherent obligation to respond to the changing needs of the state, and to provide well-trained health manpower appropriate to the rural needs of the state.

The continuing issue of the definition of *rural* is beyond the scope of the present discussion. Common usage by various individuals and organizations has generally involved use of the term *rural* to embrace that which is not located in the metropolitan areas of Tulsa or Oklahoma City. Within the weaknesses inherent in all definitions, this usage appears to be satisfactory for most current health planning within the state. The purpose of the present discussion is to review the various programs of the University of Oklahoma College of Medicine designed to deal with rural health needs.

### Rural Programs

The concept of special attention to rural health care needs is not new to the College of Medicine. Indeed, as will be apparent from the descriptions

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that follow, the college has for decades implemented programs designed to acquaint students and other trainees with the special conditions relating to rural practice.

Several principles have informally developed regarding the role that academic health centers such as the College of Medicine must play in providing for rural health care: educational experiences must be located to the extent possible outside Oklahoma City and Tulsa; a specific "curriculum" appropriate to rural practice is desirable; and the training should center first on the primary care specialties of family medicine, internal medicine, pediatrics, obstetrics/gynecology, and emergency medicine. The college is giving attention to each of these. Because of the complexity of organizing educational needs to meet the varied and urgent demands of medical education and in keeping with an overall philosophy, the College of Medicine has tended to resist setting up separate programs and categories that are distinct from the "mainstream" of medical education. On the contrary, the college, where deemed feasible and desirable, has tended to inculcate and implement various programs, activities, and emphasis within existing programs. Among other advantages, this system permits a greater degree of synthesis, integration, and cooperation than would be fostered by a separate system or educational "track." This approach permits optimum use of limited staff, provides for the broadest integration of disciplines, and fosters important educational "cross-fertilization." It is, however, less obvious to the casual observer and can't be described as crisply and efficiently as it might be if it were a separate compartmented program.

### Undergraduate Activities

At the earliest practicable time, the college begins recruitment efforts of new applicants to medical school. These efforts continue through graduate training and include continuing education activities for those in practice. Special attempts are made to ensure that members of the Admissions Committee include those from rural areas, and the needs of rural inhabitants are explained during the annual orientation of Admissions Committee members.

Newly selected students may participate in the Seven Days in August program, operated in cooperation with the Oklahoma Academy of Family Physicians. This program allows students to spend a week with a community physician prior to matriculation in the fall. As have most schools, the college introduces students to clinical situations in physician's offices during the first year of instruction. The freshman course, Introduction

to Clinical Care, established in 1979, provides three rotations in the offices of physicians in the Oklahoma City metro area and, although not located in rural areas, does begin the process of introducing the student to primary care concepts. Following the first year of study, students may elect to participate in the Future Physicians of Oklahoma program, a ten-week summer program offered jointly with the Family Health Foundation of Oklahoma (a constituent of the Oklahoma Academy of Family Physicians). This program allows approximately one-half the class to gain experience in a rural location. At the end of the second year, students participate in the Introduction to Human Illness course which includes experience in community hospitals; while not strictly rural, this course does emphasize the elements of primary care. During the third year, a required clerkship in family medicine provides intense clinical experience in primary and community care. The college is in the process of establishing a longitudinal rural elective available to students during their four-year medical training. This program, depending upon availability of funds, will provide for a longitudinal experience for students to develop projects in conjunction with a rural preceptor that can be pursued for extended periods, providing yet another special experience in rural health care.

As in a number of other academic health centers, the centerpiece of the college's commitment to rural care has been the Rural Preceptorship Program, a four-week required rotation during the fourth year. The college was one of the very first in the country to provide such a rural experience, having begun its program in 1949. This program takes place in one of 26 communities of less than 10,000 population located throughout the state. Experiences are varied depending upon the primary interest and type of practice of the preceptor, and provide for the student to reside in a rural location. One example of such an experience is in Poteau, where students, under the direction of Dr. Richard Winters, participate in both medical and non-medical rural experiences, with a balance between individual student responsibilities and supervision. Management of the preceptorship program is in the Department of Family Medicine. Preceptor programs are reviewed for balance of student responsibility and educational content, and, where appropriate, recommendations are made to the executive dean for program modification. New programs in other states continue to be implemented according to this model.<sup>10</sup>

Other experiences acquaint students with aspects of both primary and rural care. A prime ex-

The centerpiece of the college's commitment to rural care has been the Rural Preceptorship Program, a four-week required rotation during the fourth year.

ample of this is the Family and Community Medicine Interest Group (FCMIG), established in the mid-80s, which meets regularly during the school year and arranges activities with the local family medicine association and the college faculty.

### **Graduate Activities**

The activities of the college directed toward serving rural Oklahoma are not confined to medical student programs, but include increasing attention to the provision of rural training and experiences for resident physician training. The family medicine residency program in Enid provides two years of training for residents who have completed an initial year on the Oklahoma City campus. Other rural graduate experiences include McAlester (internal medicine) and Ada (obstetrics/gynecology). Negotiations are underway to establish rotations for family medicine residents in Chickasha and Lawton, and pediatric residents in Enid. It is worth pointing out that these senior level residents provide considerable direct service to rural Oklahoma residents. For example, the rotation of senior obstetrics/gynecology residents through the Indian Health Service Hospital in Ada provides substantial health care to citizens of this community.

Further development of rural graduate training programs will depend upon the availability of on-site faculty to oversee the many coordinating and academic requirements. Sources for support of such faculty positions will have to be made available to ensure success of the dispersed training program that is rapidly becoming a necessity through marketplace effects.

### **CME for Rural Practitioners**

The Office of Continuing Medical Education (CME) offers an expanding series of postgraduate courses, many of which are specifically designed to meet the needs of primary care and rural physicians. In 1994, this program sponsored 44 programs involving 17 departments, and provided 447 credit hours for 1,882 participants, while assisting departments to provide other ongoing educational programs. This year the CME program office played a key role in the establishment of a continuing education consortium for the state. Current efforts include attention to increasing CME programs outside Oklahoma City and Tulsa.

Exploration of the use of advanced video and telecommunications is underway in order to provide another source for educational reference. An outstanding example of extending continuing education to local areas is the perinatal education program of the Department of Obstetrics/

Gynecology. This interdisciplinary program provides training to nurses, physicians, and midwives; and is designed to permit care of even complicated obstetric patients to the maximum feasible extent in the local communities.

### **Other Special Activities**

In August 1992, the executive dean established a task force on rural health to provide analysis and recommendations for program development. A number of task force recommendations have been acted upon, including the fostering of an attitude of increased attention to rural needs, increasing resident training in rural locations, emphasizing rural needs in the admissions process, and expanding continuing education efforts. The work of the task force led to establishment of a position for an associate dean for community affairs with major responsibilities directed toward generalist and rural educational experiences.

### **Programs on the Tulsa Campus**

In general, programs on the Tulsa Campus, where a proportion of third- and fourth-year students (25%) are educated, parallel those of the Oklahoma City campus. Similar emphasis is placed on rural experiences at all education levels. Senior students participate in the integrated preceptorship program. Rotations of family medicine residents take place in certain Indian Health Service hospitals, the Veterans Administration Hospital in Muskogee, and in Ramona, Oklahoma.

### **Discussion**

As is the case across the country, the College of Medicine is dramatically caught up in profound economic changes in the potential source of funding for medical education, over which it has essentially no control. Similarly, the college depends upon several sources of support to carry out its educational mission, making planning and program stability very difficult, especially when considerable source of support arises from funds generated by the faculty themselves. The current vicissitudes in medical care support result in, among other things, considerable conflict regarding the mission and goals of the college. For example, academic health centers are expected to produce highly trained physicians and scientists capable of dealing with the "cutting edge" of scientific medicine and investigation. On the other hand, especially in institutions such as the College of Medicine, serving the needs of the state, there is an equally large responsibility to train practitioners who will provide for the health needs of the citizens of the state. The latter requires a

strong emphasis on generalist education. These are often competing demands on a faculty also being asked to generate greater amounts of patient income in order to support the teaching of medicine. As if these factors were not sufficiently daunting, additional complexity arises from the continued tri-part responsibilities of academic health centers to teach, provide patient care, and conduct research.<sup>5</sup> One can readily appreciate that the atmosphere of most academic health centers is highly charged and characterized by anger, fear, low morale, and uncertainty about the future. However, even with these difficulties, there are other outside forces that impinge heavily on academic institutions, truly jeopardizing their continued ability to provide for all the requirements that arise through "health care reform," "managed care," and other changes in the health care delivery paradigm.<sup>12</sup>

The University of Oklahoma College of Medicine has risen to meet these competing challenges with an extensive and comprehensive approach to providing well-trained individuals to meet the needs of the state, including those of its rural citizens. Indeed, the College of Medicine has a long history of attention to the special needs of this primarily rural state. Its rural initiatives include attention to the recruitment of students, development of educational experiences specifically designed to produce personnel trained for work in rural locations, and efforts to provide

continuing education throughout the state. Successes achieved in the past provide ample evidence of our ability to meet these evolving challenges, as daunting as they may be. T

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## Board of Trustees holds October meeting in Duncan

The Oklahoma State Medical Association's Board of Trustees held their October 29 meeting in Duncan, and moved quickly through an agenda filled with administrative matters.

Most notable, perhaps, were announcements from OSMA Executive Director David Bickham and Legal Counsel Ed Kelsay that they will be stepping down from their respective positions. Bickham expects to leave in the spring after Annual Meeting and Kelsay's departure becomes official at the end of this year.

Other business conducted included the following:

- A motion was approved allowing Dr. Edward N. Brandt, Jr., to be advised and assisted by the Council on State Legislation and Regulation in writing a comprehensive bill on nurse practitioners to introduce to the state legislature.

- A motion was approved instructing the Council on State Legislation and Regulation to write a bill, with the assistance of the Osteopathic Association, in support of "any willing provider" legislation.

- The Council on State Legislation and Regulation presented an amended version of HB 1332, the Fairness in Managed Care Act, for presentation to the state legislature; the board approved its submission to the legislature.

- The board was reminded that Oklahoma's Living Will would change November 1 to allow people to designate themselves as organ donors. A joint effort with the Oklahoma Bar Association, the new Living Will, an informational brochure, and a wallet card are available

to any physician at no charge, upon request from the OSMA.

- A budget for 1996 was approved.

- A motion was approved directing the OSMA auditors to calculate the amount of interest due and owing from PROklahoma and directing that PROklahoma be billed for that amount.

- A motion was approved to begin the process of terminating the old defined benefit pension plan and to set the date of June 1, 1997 (to be selected by the Pension Committee), as the date of distribution.

- A Certificate of Corporate Resolution prepared by the OSMA pension consultant was adopted.

- Life Membership applications were approved for Martin H. Andrews, MD, Angel Fire, N.M.; Ted Clemens, Jr., MD, Edmond; C.M. Coffey, MD, Tulsa; Arnold G. Nelson, MD, Midwest City; and Richard B. Price, MD, Saunders J. Thompson, MD, and Webb M. Thompson, Jr., MD, Oklahoma City.

- The board accepted and filed for information the following reports from the consent calendar: Response to Secretary/Treasurer's Special Report, PLICO Report, OMPAC Report, Report of the OSMA Alliance; Report of PROklahoma Care; Report of the Oklahoma Foundation for Medical Quality; Council on Member Services Report; Council on Medical Education Report; Council on Public and Mental Health Report; and Council on Medical Services Report.

- The board voted to table rewritten bylaws proposed for the OSMA-ERF. They also directed that the issue be put on the agenda for the next Board of Trustees

meeting and that the proposed changes, old bylaws, and justification for new bylaws be provided to the board prior to the next meeting.

- It was suggested by Dr. Rebecca Tisdal that the OSMA directory of physicians include county presidents, trustees and their districts, and the association bylaws. The 1996 directory, scheduled for distribution this month, is expected to contain the information requested.

- At the end of the regular meeting, the board went into Executive Session to discuss legal and personnel issues.

†

### Executive director announces plans to leave OSMA

David Bickham, executive director of the Oklahoma State Medical Association for the last two decades, has announced he will step down from the post next spring after the OSMA's Annual Meeting.



David Bickham

Bickham joined the OSMA in 1968 and became executive director in 1975. It was on his watch that the asso-

(continued)

## Executive Director (cont.)

ciation weathered the implementation of Medicare and Medicaid, saw the development of the University of Oklahoma College of Medicine's Tulsa campus, assisted in the creation of the Physician Manpower Training Commission, and established the Physicians Liability Insurance Company (PLICO). Also, the OSMA Physician Recovery Program was founded and quickly became a model for the rest of the nation. Most recently Bickham has seen the successful launch of now-independent PROklahoma Care, a physician-owned managed care organization, and the affiliated Oklahoma Physicians Network (OPN), an independent physicians association.

Bickham and his wife, Kay, reside in Edmond, where they are active in community affairs. To date they have announced no specific plans for the future.

A search committee has been established to locate a qualified candidate for the vacated position. Inquiries should be directed to OSMA Chairman of the Board Chester L. Bynum, MD, 1125 N. Porter, #104, Norman, OK 73071. J

### Announcing the 1995 Mark R. Johnson Competition "Excellence in Medical Writing"

A \$500 cash award will be presented to the medical student or resident at the University of Oklahoma College of Medicine (Oklahoma City or Tulsa campus) who, by December 31, 1995, submits the best scientific paper or opinion piece for publication in the JOURNAL.

Entries will be judged by the JOURNAL's Editorial Board at its annual meeting next March and the winner, if any, will be announced at the Annual Meeting of the OSMA House of Delegates in April 1996. All decisions of the Editorial Board will be final.

The student or resident submitting the paper need not be the sole author, but must be the lead author and must have done the majority of the writing. Entries in the competition should be clearly labeled as such when submitted.

Entries should be mailed to: Mark R. Johnson Competition, OSMA JOURNAL, 601 Northwest Expressway, Oklahoma City, OK 73118. For additional information, call (405) 843-9571 or 1-800-522-9452.

## Association's general counsel to step down

OSMA General Counsel and Associate Executive Director Ed Kelsay has announced he will be leaving the association effective December 31.



Ed Kelsay

A nationally known speaker, Kelsay plans to spend more time developing that facet of his career. His expertise on loss prevention and medical of-

fice management has put him in great demand. In addition, he plans to continue serving as loss prevention manager for PLICO on a contract basis.

In 1994, Kelsay was made an honorary member of the OSMA in recognition of his many years of service.

"I have enjoyed my 28 years working with Oklahoma physicians. I will be able to continue that relationship through PLICO while pursuing other interests," Kelsay said.

Kelsay and his wife, Margaret, live in northwest Oklahoma City. J

## Oklahoma City's KWTW

### Local TV station airs bad doctors report

Oklahoma City television station KWTW, a CBS affiliate, was taken to task last month by OSMA President Larry L. Long, MD.

At the center of the dispute was KWTW's sweeps week series entitled "Disciplined Doctors." The series reported on Oklahoma's "bad doctors," deriving its information from public records at the office of the Oklahoma State Board of Medical Licensure and Supervision. To accompany the report, the station prepared and offered to the public a booklet listing all Oklahoma physicians who have been sanctioned since 1990. Reportedly, over 20,000 requests for the booklet had been received by November 20.

Dr. Long wrote to David Griffith, president and general manager of KWTW and raised two issues:

(1) If the feature was intended to protect the public from "bad" medical practitioners, why were only MDs included in the report and not osteopaths, chiropractors, dentists, optometrists, podiatrists, nurses, psychologists, physical therapists, social workers, and others who work with patients? Because of the omission of these other groups, Dr. Long questioned the motivation behind the series.

(2) While there are some bad doctors listed in the booklet, the majority are good physicians who erred because of age, illness, or poor judgment paid for their mistakes, and then took the steps necessary to return to practice and to their places in their communities, Dr. Long noted. He said that listing these physicians without a thorough explanation of their offenses, rehabilitation, and return to productive practice was irresponsible.

Earlier the OSMA had countered the series with a press release to area newspapers explaining what the licensure board and the OSMA do to protect the public, including details about the OSMA Physician Recovery Program, its reputation for success, and the fact that Oklahoma's higher number of disciplined doctors is a result of more diligent supervision rather than a higher number of bad doctors.

In addition, sample letters were mailed to county society presidents, trustees, and other medical leaders who might wish to respond personally to their local media. J



## HEALTH DEPARTMENT

### Hepatitis A epidemic continues in eastern Oklahoma

An epidemic of hepatitis A is ongoing in eastern Oklahoma. Rates at least 3 times normal have been reported in Sequoyah, Cherokee, Okmulgee, Mayes, McIntosh, LeFlore, Muskogee and Okfuskee counties, and the epidemic appears to be spreading to other counties.



As of October 15, over 900 cases of hepatitis A had been reported in Oklahoma this year, compared to an average of 345 cases/year over the last five years. Moreover, Oklahoma's rate of 25.7 cases per 100,000 population in 1995 is the highest in the region, compared to Missouri with 18.8, Arkansas 14, Texas 10.3, Kansas 8.7, and Louisiana 2.2. The majority of the reported cases are adult white or Native American males (62% are aged 20-40 years, 60% are male, 63% are

white, and 20% Native American).

Physicians should be alert for patients who present with hepatitis-like symptoms. Common symptoms include fever, malaise, nausea, vomiting, anorexia, abdominal discomfort, jaundice, and dark urine. In children, infection is generally mild and without jaundice. Diagnosis is confirmed by demonstration of IgM antibodies against hepatitis A virus (HAV IgM) in the serum of acutely ill patients. IgG antibodies against HAV (HAV IgG) appear later and indicate past infection and immunity.

Hepatitis A is transmitted by the fecal-oral route and man is the only reservoir. Infectivity is greatest during the two weeks prior to the onset of jaundice and diminished rapidly thereafter, with most persons being noninfectious after the first week of jaundice. Transmission is facil-

itated by poor personal hygiene and poor sanitation. Persons at increased risk of infection include household or intimate contacts of active cases, persons who have consumed food or drinks prepared by an active case, persons associated with a day-care center in which an active case is a child in diapers, and travelers to developing countries. Immune globulin may avert disease if it is administered within two weeks of the exposure. Due to the potential for widespread transmission, it is especially important to promptly evaluate hepatitis A cases who are food handlers or who attend or work in day care centers.

Physicians can aid in controlling the epidemic by properly evaluating patients with symptoms compatible with hepatitis and promptly reporting all confirmed cases to the county or state health department (405-271-4060). The health department will then initiate immediate follow-up of cases in order to prevent further transmission of disease. □



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## State internists in national ASIM spotlight

Two Oklahoma internists gained national recognition at the 39th Annual Meeting of the American Society of Internal Medicine (ASIM) in October. Dr. M. Boyd Shook was voted president-elect of ASIM and Dr. S. A. Dean Drooby received ASIM's first special recognition award for component society leadership.

Dr. Shook specializes in hematology in Oklahoma City. He is associate chief of staff of ambulatory care at the Veterans Administration Medical Center in Oklahoma City and a clinical assistant professor of medicine at the University of Oklahoma.

First elected to ASIM's Board of Trustees in 1987, Dr. Shook is chairman of ASIM's Long Range Planning Commit-



Dr. Shook

tee. He has served on the Board of Directors and as secretary of the Commission on Office Laboratory Accreditation (COLA). He is also a member of the Board of Trustees of the Internal Medicine Center to Advance Research and Education, a subsidiary of ASIM. He is a past president of the Oklahoma County Medical Society, Oklahoma Society of Clinical Oncology, Oklahoma Society of Internal Medicine, Oklahoma Foundation for Peer Review, and the Physicians' Medical Plan of Oklahoma. He earned his medical degree at George Washington School of Medicine in 1959 and an MBA at Oklahoma City University in 1995.

Dr. Drooby, also of Oklahoma City, is the president of the Oklahoma Society of Internal Medicine (OSIM). He is the first physician to receive the new ASIM award that recognizes the most outstanding leader each year from among 50 state societies of internal medicine. He has a private practice with a special interest in preventive cardiology, depression, anx-

iety, and stress-induced illnesses, and is actively involved in health care issues on the national level as well. He spearheaded the establishment of an internal medicine student section at the University of Oklahoma,



Dr. Drooby

prioritize OSMA efforts. He also was named the Outstanding Key Congressional contact of 1995 for his efforts to advance ASIM's legislative agenda.

Dr. Drooby graduated from the University of Western Australia Medical School in 1980. He completed an internship at Royal Perth Hospital in Perth, Western Australia, and an internship and residency at the University of Oklahoma.

authored a series of thought-provoking "letters from the president" and articles for the quarterly newsletter, and formed a joint federal-state legislation committee that meets monthly to coordinate and

## New AMA task force addresses issues involved with end-of-life care

Physicians are educated to provide medical interventions and direct health care services with the intention of extending and/or improving the quality of life, says the American Medical Association (AMA). For patients at the end of life, the focus of care frequently shifts to palliation and quality of life becomes the predominant consideration for decisions made within the patient/physician relationship.

The AMA has established an internal working group, called the Task Force on Quality Care at the End of Life, to aid physicians in identifying when in the care-giving process this transition in care needs may occur, and to identify actions that can be taken to improve the quality of life for those facing the end of life.

**Ethical Considerations**—End of life issues have always been fraught with problems that society as a whole has not yet addressed. Through their close relationships with their patients, physicians continue to hold a significant role in how people address these issues. Assuming patients do not misunderstand the prognosis and treatment options and they are not suffering from a treatable form of depression, physicians in virtually all cases are morally obligated to abide by the competent patient's directions in the provision or stoppage

of life-sustaining treatment. Physicians have an obligation to relieve pain and suffering and to promote dignity and autonomy of dying patients in their care. This includes providing effective palliative treatment even though it may foreseeably hasten death.

**Futile Care**—In addressing end of life care decisions, questions will arise whether potential treatment will be beneficial or futile. Patients should not be given treatment simply because they demand it. The AMA is in the process of developing a working definition of "futile treatment" that physicians will be able to consult to assist in conflicts with patients and their families where intensive care is requested and the physician does not believe such treatment has a reasonable chance of benefiting the patient.

**Advance Directives**—To increase understanding and use of advance directives, the AMA is taking actions to familiarize physicians, and physician leaders in particular, with the patient guide jointly released on October 1, 1995, by the AMA, the American Association of Retired Persons (AARP), and the American Bar Association (ABA): *Shape Your Health Care Future with Health Care Advance Directives*.

**Palliative Care**—Physicians and patients need to have a better understanding of what constitutes palliative care. The




(continued)

## AMA task force *(continued)*

AMA will investigate the development definitions for palliative care, and parameters for such care.

**Euthanasia and Physician Assisted Suicide**—While competent patients generally retain autonomy in end-of-life decisions, this does not extend to requests for euthanasia or physician-assisted suicide. Dire social implications are inherent in these issues, and they pose a serious risk of abuse that is virtually uncontrollable. Such practices are ethically prohibited, they are fundamentally inconsistent with the physician's role as healer, and they could contribute to erosion of the patient/physician relationship.

**Conclusion**—The AMA is working to improve physician and patient communication associated with end-of-life care. Patients deserve full information about their clinical status, honest assessment of prognosis, and education about potential treatment options, including palliative care, pastoral care, and hospice. Physicians should encourage patients to consider their attitudes about health care and quality of life prior to a crisis, advocating completion of advance directives. Medicine recognizes its responsibility to take actions to enhance the decision-making ability of the medical/health care team that is ethically, morally, and professionally trained and entrusted to provide care for patients at the end of life. 

## DEATHS

### **David H. Copple, MD 1931 - 1995**

Tulsa David H. Copple, MD, a native of Drumright and a 1965 graduate of the Medical College of Charleston, S.C., died November 8, 1995, in Tulsa. Dr. Copple was a cardiologist and clinical assistant professor of medicine at the University of Oklahoma. He completed fellowships in pulmonary medicine and cardiology at the University of Oklahoma Health Sciences Center, Oklahoma City, in 1971.

### **George Burley Gathers, Jr., MD 1916 - 1995**

Lookeba native George B. Gathers, Jr., MD, died October 2, 1995, at Tulsa's St. Francis Hospital. Dr. Gathers grew up in Caddo County and after completing a bachelor's degree at Oklahoma State University in 1941, entered the U.S. Army Air Corps. A pilot, he earned the rank of lieutenant colonel. After completing his military service, he attended the University of Oklahoma College of Medicine, graduating in 1950. Dr. Gathers then established a private ob-gyn practice in Stillwater. In 1970 he accepted a position at OSU's student health center, retiring in 1987. He became a Life Member of the OSMA in 1988.

### **John Morgan Moore, MD 1923 - 1995**

Pauls Valley physician John M. Moore, MD, died October 17, 1995, in Oklahoma City. A World War II veteran who

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Laurence Oliver Short, MD .....	October 29
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Clifford Jennings Blair, MD .....	February 10
John Richard Danstrom, MD .....	March 5
Elmer William Taylor, MD .....	March 5
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Charles Wesley Letcher, MD .....	March 26
John Frederick Bolene, MD .....	March 27
John B. Miles, MD .....	March 31
Elvus Jene Allgood, MD .....	May 6
Wiley T. McCollum, MD .....	May 13
Gerald Leon Honick, MD .....	May 24
William G. Husband, Jr., MD .....	May 25
Henry Washington Harris, MD .....	June 2
Joan Kazanjian Leavitt, MD .....	June 13
Lucien Michael Pascucci, MD .....	July 2
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Paul Harvey Rempel, MD .....	October 31
David H. Copple, MD .....	November 8
Harold Gordon Muchmore, MD .....	November 14



## Deaths (continued)

served as a pilot in the U.S. Army Air Corps, Dr. Moore was born in Albuquerque, N.M. He earned his medical degree at the University of Oklahoma in 1952 and maintained a private family practice in Pauls Valley from 1953 to 1990. Dr. Moore was named an OSMA Life Member in 1995.

### **Harold Gordon Muchmore, MD 1920 - 1995**

Infectious diseases specialist Harold G. Muchmore, MD, died November 14, 1995, in Oklahoma City. Dr. Muchmore was born in Ponca City and graduated from the University of Oklahoma School of Medicine in 1946. After an internship in New Jersey, he returned to Oklahoma for residency training at University Hospital in Oklahoma City. He served in the U.S. Air Force from 1952 to 1954. In addition to his private practice, Dr. Muchmore held the post of chief of the Tuberculosis Service at the VA Medical Center in Oklahoma City.

### **Ralph William Murphy, MD 1923 - 1995**

OSMA Life Member Ralph W. Murphy, MD, a 1949 graduate of the University of Oklahoma School of Medicine, died October 13, 1995, in Ardmore. A native of Glendive, Mont., Dr. Murphy had begun his 42-year pediatrics practice in Ardmore in 1952. He retired from active practice in 1994. During the Korean conflict, Dr. Murphy served in the U.S. Army Medical Corps.

### **Paul Harvey Rempel, MD 1907 - 1995**

Paul H. Rempel, MD, a native of Coopertown, Okla., died October 31, 1995, in Enid. He was a 1934 graduate of the University of Oklahoma School of Medicine, and established his office of family practice and surgery in Enid in 1937. Dr. Rempel was a past president of the Garfield County Medical Society and the first director of public health in that county and he remained on that board until 1991. Dr. Rempel retired from active practice in 1985, having been awarded an OSMA Life Membership in 1982.

### **Edwin Patrick Shanks, MD 1921 - 1995**

Longtime Enid obstetrician-gynecologist Patrick Shanks, MD, died October 24, 1995, in Colorado Springs. Dr. Shanks was graduated from the University of Oklahoma School of Medicine in 1946. He served in the U.S. Navy Medical Corps from 1947 to 1950. After completing an ob-gyn residency in Oklahoma City in 1953, Dr. Shanks established a private ob-gyn practice in Enid, retiring in 1985. He became an OSMA Life Member the following year. Dr. Shanks was a native of Drumright.

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I'm a practicing physician and I want my patients to know that Medicare will go broke by 2002 unless it's fixed now. The AMA has been working 10 years on ways to improve Medicare. Now Congress is about to act, and you need the straight story about what is really going on. Here are answers to questions patients ask me the most about the Medicare mess.

## 1. Does anyone have an answer?

The House Leadership has a plan that makes sense, tackles the hard financing problem and is good for patients. Most important, spending per person will *still* rise from \$1,800 to \$6,700 in 2002.

## 2. Will I have to give up what Medicare already gives me?

No. You can keep the security of traditional Medicare if you want. You won't have to do anything different.

## 3. Can I choose my own doctor and my own health plan?

Yes. In fact, patients will have more choices, including traditional Medicare, private insurance plans or a tax-free medical savings account.

## 4. How much more will it cost me?

You will pay a little more, but not a lot more. On average, monthly premiums will rise only \$6 a year over the next seven years. If you choose a private sector health plan, there may be expanded benefits and lower out-of-pocket expenses.

## 5. Will patients be protected?

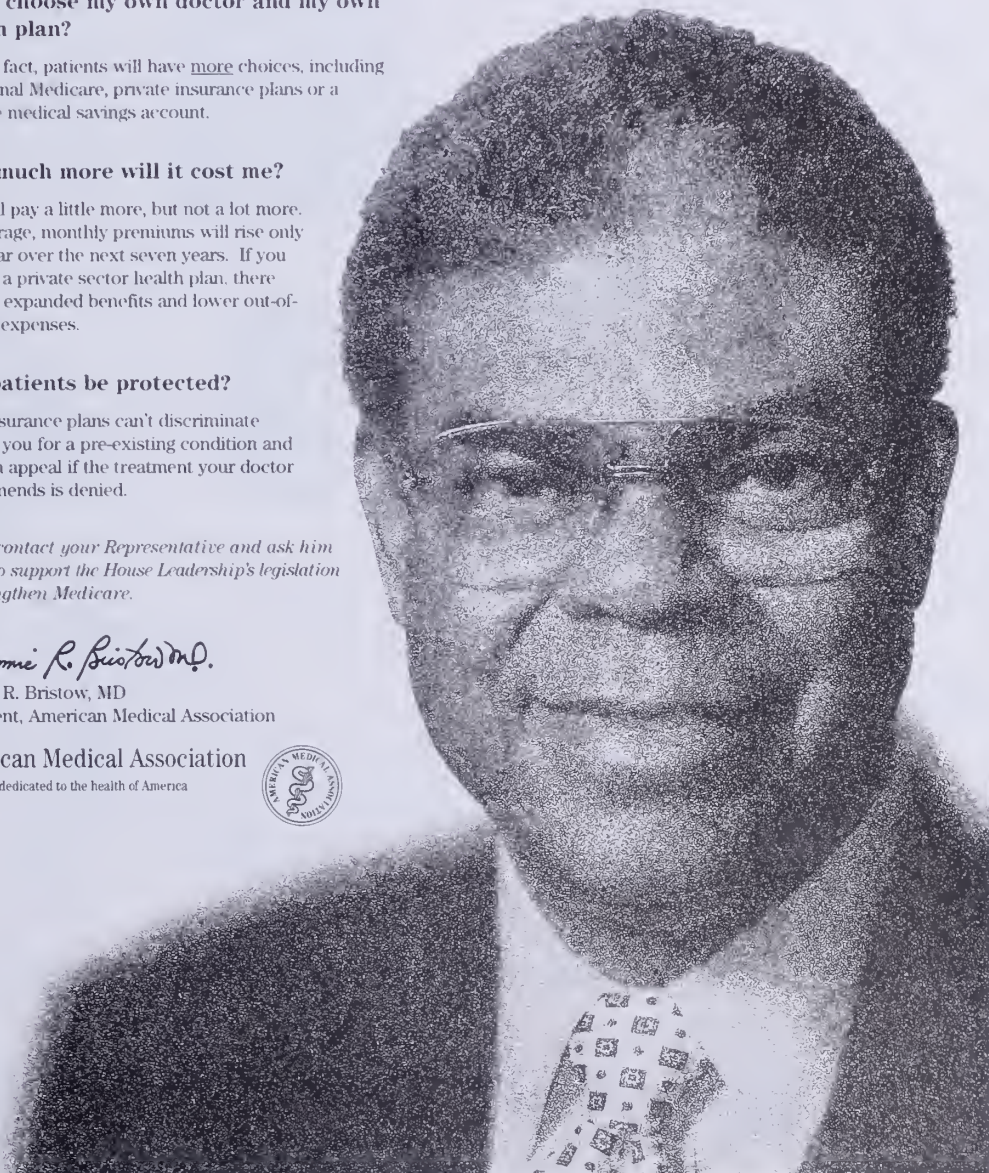
Yes. Insurance plans can't discriminate against you for a pre-existing condition and you can appeal if the treatment your doctor recommends is denied.

*Please contact your Representative and ask him or her to support the House Leadership's legislation to strengthen Medicare.*

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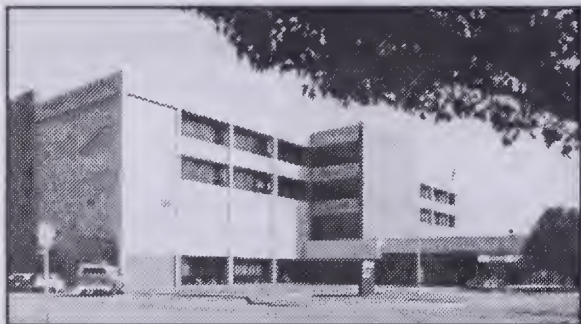
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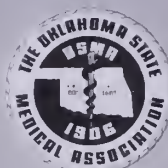


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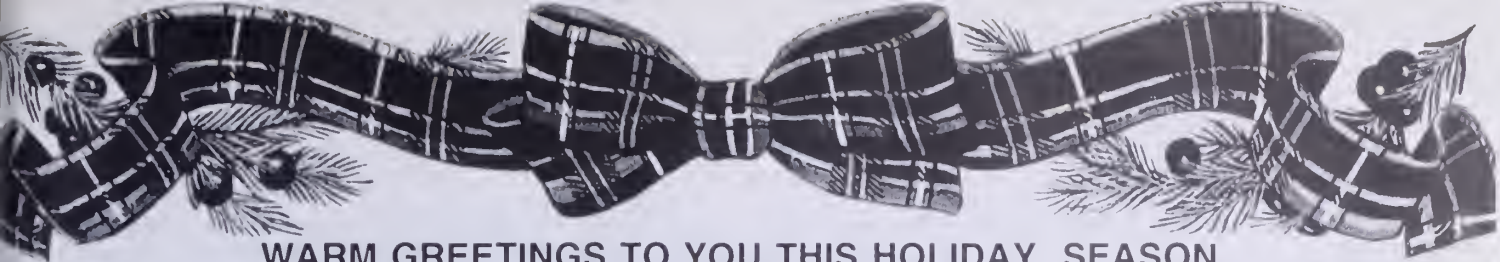
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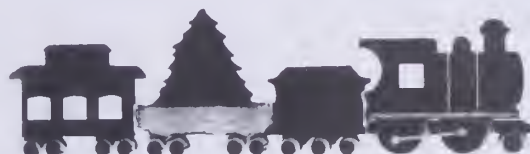




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Advance directives completed through October 31, 1995, will be considered valid, but use of the new forms is encouraged.

■ **The JOURNAL still has on hand a good supply of its** special July (Oklahoma City bombing) and October (Leaders in Medicine: Ed L. Calhoon, MD) issues, should anyone want additional copies.

■ **February 1, 1996, is the deadline for nominations for** the Ayerst Wyeth Physician Award for Community Service and the Donald J. Blair Friend of Medicine Award. The service award goes to a physician who, in addition to his or her medical practice, has contributed significantly to the community. The Blair Award, formerly the Layman of the Year Award, is presented to a non-physician for his or her support of the art and science of medicine in Oklahoma. Winners are selected by the OSMA Board of Trustees at their February

meeting each year and the awards are presented at the Annual Meeting of the OSMA House of Delegates in April. Winners in 1994 were Bertha M. Levy, MD, Oklahoma City, and Wilson D. Steen, PhD, Norman. Nominations for both awards should be sent with supporting material to Chester L. Bynum, MD, chair of the OSMA Board of Trustees, c/o OSMA, 601 NW Expressway, Oklahoma City, OK 73118.

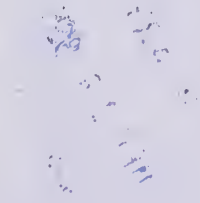
■ **The JOURNAL encourages Oklahoma physicians to express** their opinions in letters to the editor. The Letters column serves as an open forum for the exploration and discussion of topics vital to Oklahoma doctors. Opinions should be mailed To the Editor, OSMA JOURNAL, 601 Northwest Expressway, Oklahoma City, OK 73118, faxed to 405-842-1834, or e-mailed to osma@ionet.net.

■ **Entries for this year's Mark R. Johnson Excellence in** Medical Writing competition will be accepted through December 31. Students and residents on either University of Oklahoma College of Medicine campus are eligible to enter original manuscripts. The winner of the \$500 cash award will be determined by the JOURNAL's Editorial Board in March and the award will be presented at the Annual Meeting of the OSMA House of Delegates in April.

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■ **The American Medical Association has established a** hotline to keep members up to date on the Medicare reform debate in Congress. The message, which includes action alerts, will be changed daily. The number is 1-800-833-6354.

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With all these features, as well as OSMA ownership and direction, the differences are striking.

**The things that make PLICO Health different are the things that make PLICO Health better.**

For further information or to enroll, call, write, or fax, PLICO

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